WHERE IS NEW ZEALAND GOING ?

A thesis

submitted in partial fulfilment

of the requirements for the Degree

of

Doctor of Philosophy in Sociology

in the University of Canterbury

by

Geof Pearce

University of Canterbury

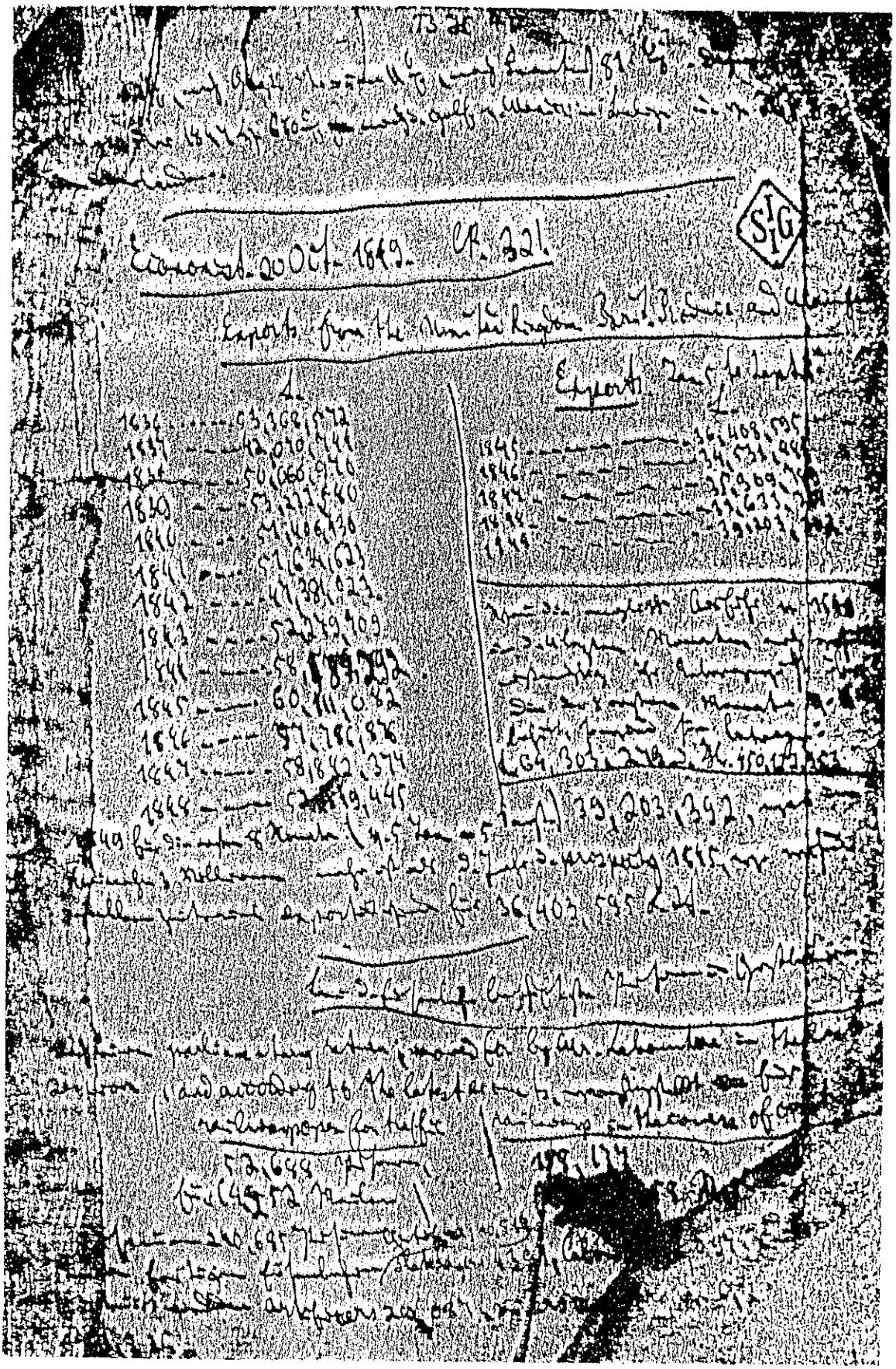
1986

ABSTRACT

Marxism is often criticised for its 'outdated economics' which wrongly downplays the state's role in modern social life. This study uses readily available official statistics to test the validity of this critique. Although simple accounting principles are used, factory production data for 1923-70 is rigorously and systematically re-aggregated to approximate constant (fixed and circulating) and variable capital, manufacturers' surplus-value, capital composition, and rates of accumulation, exploitation and profit. A separate volume details all statistical operations and tabulates results. Capital accumulation is used to fix the curve of capitalist development and the interrelations between value-ratios are used to explain the curve's shape. Conventional theories are also called on to explain trends in national income and factory production input/output series. Main conclusions drawn are that (1) marxism is empirically well-corroborated and (2) no consistent correlation holds between state intervention and economic growth. Marxian hypotheses concerning proletarianisation, economic concentration, class struggle, etc. are also tested systematically against New Zealand data and confirmed. In this light, and as rival theories of superior verisimilitude are absent, the criticism mentioned is rejected as unwarranted. Most NZ marxian analyses focus on superstructures, lacking objective bases for problem-formulation and solution; this study offers such a basis.

DEDICATION

For my life-companion and comrade Heather, who profoundly understands that the full development of each depends on the emancipation and development of all.



CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

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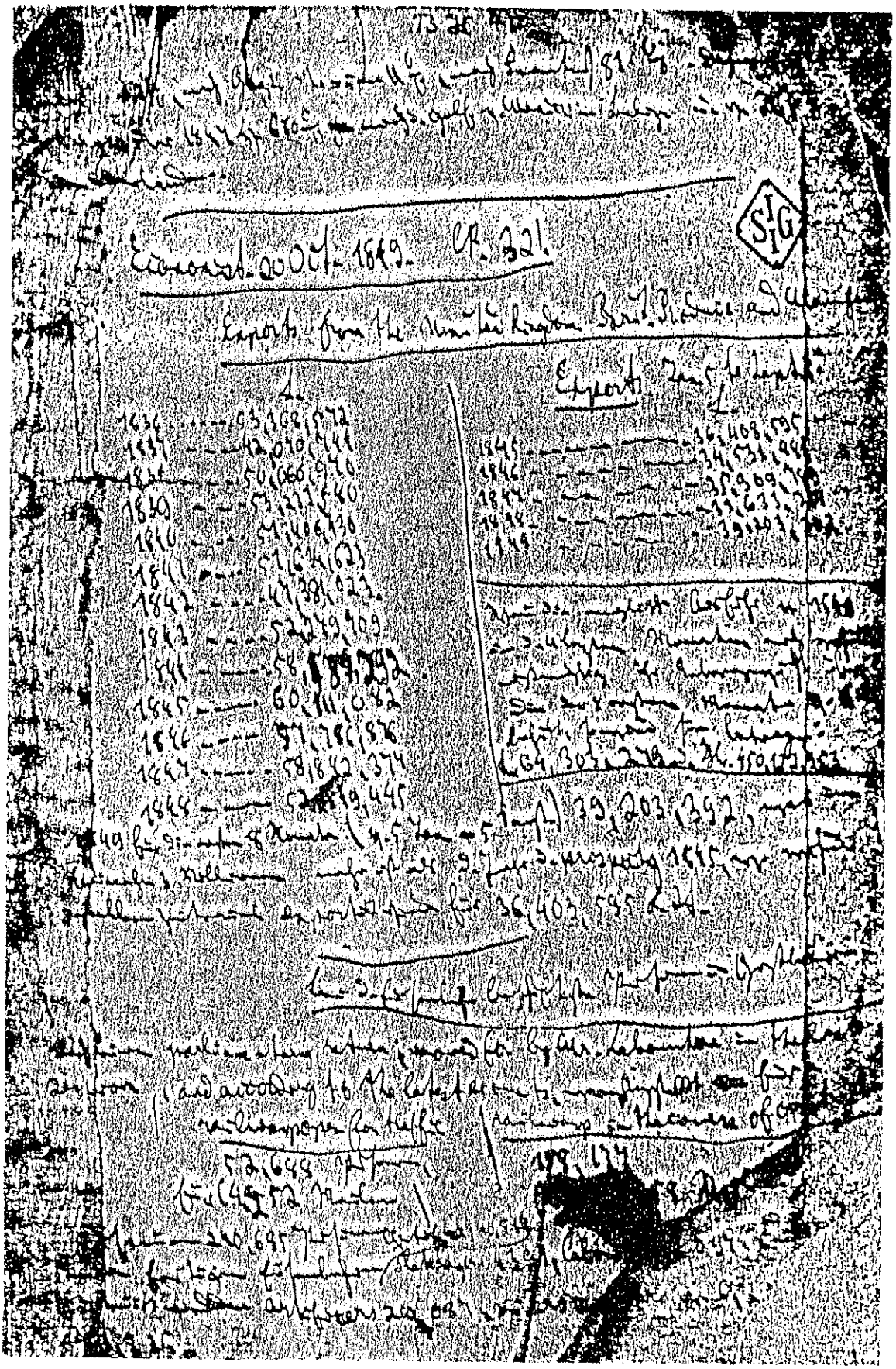

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

ACKNOWLEDGEMENTS

Producing knowledge is a social activity. During the four years it took to complete this study, I was influenced - for better or worse - by many people. It is impossible to acknowledge all of them. At the same time, some have made vital contributions which should be acknowledged.

Without a scholarship from the University Grants Committee, I should have lacked sufficient material resource to engage in full-time research. This economic basis was further supplemented by half-time teaching positions in the Department of Sociology at Canterbury. The results of my investigations should go some way towards repaying these debts.

The kind support and assistance given by Marlene Woodrow, Secretary in the Sociology Department, sustained me in times of need - not least by maintaining the flow of Disprin.

Members of the custodial staff always adapted good-naturedly to my long working hours, which saved me a lot of time.

Operations staff in the University Computer Centre gave freely of their time and were patient in their explanations. On numerous occasions, Mr Andrews, Mrs Bird, Mrs Duncan and Miss Wright advanced my graphs to the top of the queue to save me time. I hope my explanations to them of the mysteries of marxian value-ratios were, if not equally useful, at least equally patient.

My colleagues and students in the Sociology Department all played a role in the way the study developed. Its final shape reflects the negative push from some and the positive pull of others. Perhaps at times I overreacted to critics of marxism. The results of my study should enable the - sometimes heated ! - debate to continue on a firmer footing.

Special thanks are due to Dr David Thorns, Reader and HOD in Sociology, who supervised my research and commented on successive drafts. Despite the fact that he himself rejects many of my assumptions, he -in the very best scholarly tradition -defended both my right to pursue my topic and my approach to it. I share with David the belief that social science is a profoundly empirical activity; the desire for an empirical

analysis was kindled by him.

I learnt the ability to make a marxian empirical analysis principally from the pages of Ernest Mandel's magistral Marxist Economic Theory. His influence should be obvious through all that follows. In the introduction to his treatise, Professor Mandel invited 'younger generations of marxists to catch the ball in flight' and extend the empirical science of marxism around the globe. I hope that this - my first (but not last !) attempt to take up the challenge -goes some way towards redressing my debt to him.

Special thanks, too, go to my colleague, comrade and friend Dr Charles Sedgwick, Department of Sociology, who commented on drafts and, at several crucial moments, sustained me materially and morally.

Sacha and Nadia patiently accepted both that their Dad worked days and nights and yet contributed little to the household budget. Their deprivations enabled my study.

But these contributions, important as they were, pale besides those made by my comrades Jurriaan Bendien and Heather Pearce.

Jurriaan now no doubt regrets his initial offer to read through and comment on all drafts. For this soon developed into correcting my grammar, and subsequently into 'translating' - as he puts it - my 'proletarian prose' into 'scholarly form'. If this study has scholarly virtues, they have been put in there by him. When I flagged, he flogged; thus this study was completed. Undoubtedly Jurriaan has done too much; the responsibility for remaining linguistic incongruities or errors is, however, mine.

For the last eight years, my companion and comrade Heather shouldered the double yoke of domestic responsibilities and earning our keep. Without this foundation, I would never have left the shop-floor. Jurriaan has yet to show me words adequate to express this debt. Heather often challenges that I start things well but never finish them. Hopefully with this work the old mould has been broken through.

16 November 1986

GRAPH NO. Page

GRAPH NO. Page

It is written: "In the Beginning was the Word".
Here I am balked: who, now, can help afford ?
The Word ? - impossible so high to rate it;
And otherwise must I translate it,
If by the Spirit I am truly taught.
Then thus: "In the Beginning was the Thought".
This first line let me weigh completely,
Lest my impatient pen proceed to fleetly.
Is it the Thought which works, creates, indeed ?
"In the Beginning was the Power", I now read.
Yet, as I write, a warning is suggested,
That I the sense may not have fairly tested.
The Spirit aids me: now I see the light !
"In the Beginning was the Deed, I write.

- Goethe, Faust, Part I, Scene 3.

PREFACE

Dissertations generally begin with a review of the literature in the field of study. The review serves two quite different purposes. First, it demonstrates familiarity with major works and thus qualification to do research in that area. Second, it allows strengths and weaknesses in existing work to be identified. This second function is more important because it provides a rational basis for doing the work.

Weakness justifies doing new work in the field. If the ground has been covered already and without weakness then further research will only reproduce existing work. Recognising weakness justifies not doing the new work in the ways that produce it. Conversely, strength in existing work justifies doing the new work along the lines that produced it. In combining strengths and weaknesses these justifications are also combined. The review is used to generate a rational research strategy; starting points, non-arbitrary decisions about the utility of particular theories, different methods, and so on .

In this thesis there is no systematic literature review. Having paid homage to tradition, reasons need to be given for breaking with it.

PREFACE

The first reason there is no literature review is that it is not possible to review the whole field of literature in "marxist economic theory" anymore. The literature grows more quickly than it can be read.

A second reason is that "marxist" is not a prescriptive literary category anymore. This is not confined to economics. The works of Althusser in philosophy, Poulantzas in politics, Olin-Wright in sociology, Thompson in history, the list could go on and on, are all categorised "marxist" in the literature of the various disciplines. None of these people write or reason in the spirit of classical marxism, of say Marx's Capital. Many so-called, even self-proclaimed, "marxists" reject the classical tradition.

The diversity of "marxism" is only part of the problem. If the different factions produced empirical studies they could be judged on their merits, on the capacity to explain events. But this does not happen. Generally "marxists" who reject the classical tradition do not do empirical work. They do "theoretical work". Investigating the relationship between "marxist" categories substitutes for the investigation of the relationship between marxist categories and reality.

In these circumstances a literature review is unhelpful. All that can be achieved is the construction of typologies by which to classify different strands of "marxism". A typology might be a useful thing to have. But it will rest on a preconceived schema of what is continuity and what is change, what should be kept and what should be dropped. There are a number of ways in which the whole could be cut; accepting the labour theory of value or the revolutionary potential of the working class or so on.

The only genuinely non-dogmatic way to mark these cut-off points is by recourse to reality. If the labour theory of value does not help explain the historical development of capitalism it ought to be dropped and so on.

To make acceptance of any thesis criterion for inclusion or exclusion without first investigating its explanatory power is as arbitrary as denying the thesis without investigation. In these circumstances a literature review preceding an empirical study merely adds to the existing confusion.

This leaves the problem, "how to justify this study and the way in which it has been done ?" The

research has been very much conditioned by the context from within which it was carried out. A brief review of this context is offered to provide a rationale.

Context has an infinite number of elements. These are reduced here to three: the history and circumstance of the writer, the institutional setting of the university and the political, social and economic setting within which both the writer and the university function.

The writer was born June 1946, a year after the end of World War 2. Undoubtedly the war played a certain part in his production. As a baby he became the adopted child in the family of a returned soldier.

In the economic downturn immediately following the war this ex-soldier found the job he had left to go to war no longer open. As was the case for many of his compatriots, the war intervened mid-way through training for skilled work. He left partly trained. He returned twenty-five years old. Within a year he was married and the father of an adopted child. Within another year his wife was confined to an sanatorium, having contracted tuberculosis. Paid help had to be obtained to care for the child. The ex-soldier had to

take up unskilled work to meet this cost. Thus began a series of jobs, working shifts and long hours. From this point skilled work, and its privileges, was no longer an option.

In the war in the Pacific the soldier contracted malaria. For twelve years after the war malaria attacks recurred. Medical advice was taken. Long hours and the intensity of work were identified as contributing factors. Lighter work was recommended.

For the next 25 years he worked as storeman for one company. This company grew to become the largest company in New Zealand. For his part in building it he received below average wages, and, on retirement: a gold watch enscribed with the company insignia, discount in company stores, and the right to attend the company's Christmas celebrations, i.e., a free dinner once each year. The generosity was not stretched far. Within six years of retiring, becoming eligible to the privileges, he died. In the three years taken to complete this study both ex-soldier and wife died.

With the exception of the malaria, the tuberculosis and perhaps that the three children were adopted, there was nothing remarkable in these

circumstances. The family lived in a working class suburb and enjoyed much the same conditions as all their neighbours. They had no car, went to few public entertainments and on very few holidays.

In so far as the children recognised social inequality or economic hardship this came through contrasting life in New Zealand with that in India or Hong Kong. On the strength of this the children saved a little money each week for deprived children in Dr. Banardo's homes in Europe. In the 1950's, New Zealanders, as they often told one another, lived in the fourth richest country in the world. Only much later did the writer recognise the absurd and abstract nature of this claim.

There were two reasons for this. First, because, long before this became common, the mother worked to supplement family income. This took a number of forms: piece-work: sewing leather gloves on an industrial machine in the living room, so much per dozen; part-time work: cleaning the central post-office very early in the morning; occasional full-time work: in factories and once in an office. The second was that they enjoyed pretty much the same standard of living as did all the people they associated with.

PREFACE

The mother had been orphaned. Her father had been gassed in World War 1. After that war he was never fit for regular employment. From around the age of ten she lived with her elder sister and her husband. The ex-soldier she later married was her sister's husband's brother. She left school at minimum leaving age. The market for female labour was narrow, confined mainly to tasks which were continuations of domestic work in the home; sewing, cooking and cleaning. She got a job sewing in a leather factory.

The children had no grandparents. They lived in houses a few hundred metres from the houses their parents lived in when children. They attended local schools. As was commonly the case for boys in the neighbourhood, the writer worked after school, in the weekends and holidays from around the age of ten. By the time he was twelve he worked on a farm in school holidays. After school he painted houses two to three hours each day. In winter he collected sports results for the city's evening paper. In summer he generally worked for the painter Saturday mornings.

Some of these jobs paid very little. Collecting sports results, in 1957-8, could pay as little as four

shillings (40 cents) for six to seven hours work. Farmwork was better paid. In the eight week Christmas holiday he earned around twenty pounds per week. Then the boy, thirteen years old, earned 50% more each week than his father.

All the boy's income was disposable. He was not required to contribute to family income. He bought second-hand motorcycles and cars while at school, items the father could not afford. When combined with political events and trends this way of life had a certain radicalising effect.

General elections were always major events. The election of 1956 coincided with an economic recession, and culminated in the 2nd Labour Government. In those days much of the campaign was mounted in the streets, candidates held regular meetings on street corners. On our corner two candidates often spoke, one from the Labour Party, the other from the Communist Party.

The vast majority of people in the electorate supported the Labour Party. Jack Locke, the communist candidate, polemicised against this. He argued the economy was in decline and that Labour neither could nor would do anything for working people. Locke

claimed the only way working peoples' needs could be met was by building a socialist society as had been done in Russia.

Meetings were held in the early evening and generally on Fridays. By contrast with contemporary political meetings they were extremely lively. Occasionally candidates would be speaking on diagonally opposite corners. Most local people attended, complete with children and dogs. Many would question and debate the candidates.

As the campaign drew on the debates became heated. Labour stalwarts argued the communists split working people and this worked to the advantage of the bosses and the National Party. Extremely crude anti-communist sentiment was expressed. Heckling and jeering of the communist candidate intensified over time.

Radicalisation began in empathy for the underdog. In those days most children took their notions of modes of generalised behaviour from the classics of childrens' literature. Most of these were political tracts against a degenerate feudal aristocracy. The ten year old had a Robin Hood conception of justice: with the poor and weak and against the strong and powerful.

PREFACE

Neither children nor adults thought much about world affairs. It was known the world was divided in two: one part free, the other part communist. At primary school there had been a teacher visiting from Laos. She taught that the communists tried to take her home country. Family friends from the countryside, had gone to Korea a few years earlier to preserve freedom there.

The family had seen them depart, watched the defenders of freedom: huge men, each with an enormous moustache, each in great black boots, in green uniform and with a very large, very white, round kit-bag on shoulder, board their ship. In retrospect they looked very much like the cossacks they were.

Indo-China, Korea and freedom were all weapons in the crusade against communism. Then, when the "mixed economy" was accepted by nearly everyone, anti-communists did not discuss "freedom" in terms of economic liberality as they do today. "Freedom" was an extremely abstract notion. It left open the question, "which freedom did communism take away ?" Jack Locke claimed that peasants in South East Asia worked in the paddy-fields 14 hours a day. They had no time nor money

to enjoy freedom. Only the rich, who lived off the poor, had time for freedom. It was easy to identify with this argument.

It was never adequately answered. "Freedom" always boiled down to mean free to believe, usually in terms of religious belief. For non-believers this is an esoteric notion of freedom. The reality of the relation between work and freedom carried much more weight than the abstract freedom to believe.

Well Labour won the election. The new government authored a document which became known as the "black budget"; no general wage order to keep wages pegged to inflation and tax increases on "workingmens' comforts": cigarettes, racing and beer. The black budget lost the party the next election. Labour supporters blamed the minister of finance. Very few people came to the conclusion that the communist might have been right.

Another radicalising factor was the Progressive Youth Movement. The PYM prefigured students' rights movements in other parts of the world. Ho, Guevera, and Mao were quoted. It sloganed on the need for students to control their education. In high schools that translated to pupil representation on school

boards and councils.

The direct influence of the current was slight. It did not leave such an indelible image in the memory that it can be associated with particular people, all that can be remembered is that most seemed to wear red berets. The PYM passed on pamphlets which were redistributed in the school grounds. School authorities banned this and organised a campaign against the "trouble makers" who passed it on. In every class, sooner or later, the conversation would turn to the naivete of communism. The boy was branded "fifth form communist".

The reaction produced another, to reply required reading Marx. There was no Marx in the school library. Marx was available in the public library, but in a section of the library only adults could borrow from. The books could not be taken from the library so they had to be read there. Since most time out of school was spent working classes had to be missed to allow visits to the public library.

Wages, Price and Profit, Wage Labour and Capital, sections of Capital and Engel's Principles of Communism were read over a period of time. A primitive communism: a theory of exploitation (where does profit

come from), an under-consumptionist thesis of crisis and a collective utilitarianism, was acquired. Generally this sufficed to confound the teacher critics. That a few half understood slogans refuted trained teachers was taken to indicate the power of the way of thinking.

There was nothing remarkable about the boy's school record. The minimum school leaving age was fifteen. Within a few months of reaching this age, as did his sister and brother after him, he left school. Like most people he knew he left school without any certificate. Only one person living in the area and known to the boy went to university. He was the son of migrants from Eastern Europe and was already a student when the family moved into the area.

Youth rates, as little as 10% of adult wages, were then paid to young workers. Leaving school to work full-time meant a fall in income. First job was clerk with the railways. Low wages spelled the end to the cars and motorcycles. They were sold to maintain income. When they had gone the standard of living fell. For a time he took an additional job, cleaning at nights and weekends. Then he was "promoted", transferred as stationmaster - on the same wage - to a

country town. Living costs rose but not income. He left and took up unskilled factory work.

Then followed a succession of meaningless, but relatively well paid, jobs. In the mid 1960's such work was easy to come by. Then factories paid "attendance bonuses" just to ensure labour for the whole of the work week. Pay day was Thursday. Many, especially younger, workers did not go to work many Fridays.

There was as well a shortage of skilled labour. For a time the principle occupation of skilled workers was supervising unskilled workers performing tasks they had previously done themselves. More and more aspects of skilled work opened to unskilled workers. For many, the boy included, shortage of skilled labour broke the barrier between skilled and unskilled work. They became trades qualified by doing the work of tradespeople for a certain period of time.

For communists and revolutionary socialists the long boom was a difficult period. The "mixed economy" seemed to guarantee semi-permanent economic growth. There were a few recessions but these were short and followed by longer periods of expansion. Revolutionaries appeared as doomsday prophets,

eternally proclaiming the end was nigh. Nearly everyone who lived through the long 1930's depression considered themselves socialists; they believed the economy should be managed and capitalism reformed. Revolutionary socialism was linked to Russia and Russia was linked to non-democratic forms of association. As long as the mixed economy continued to work revolutionaries appeared sectarian. Why give up on democracy merely to reach the same goal ?

Though not recognised as such, the recession of 1967 marked the beginning of the end of the long post-war economic boom in New Zealand. Unemployment levels rose and new social and political problems appeared. Finance Minister, later Prime Minister, Muldoon argued "imbalances" in the economy could be removed by "fine tuning" to restore post-war rates of growth.

By then the boy had met, was engaged to marry, his future wife. She was training as a kindergarten teacher. Both lived in Auckland. At the end of her training she had to apply for a job. He had acquired sufficient skills to count as a tradesperson. The couple decided to move to the boy's home town, Christchurch. A year later they married.

"Fine tuning" did not create jobs for unskilled

workers and nor did it produce the rates of growth of the past twenty years. In the general election of 1972 the Labour Party campaigned on "stimulating" the economy through government spending; i.e. deficit financing. The party won the election and invoked the policy. This induced a short, spectacular, boom in prices, especially land and housing, and interest rates.

For those renting homes, including the newly married couple, this resulted in high rents. Gross wages might have kept pace with inflation but post-tax wages did not. Speculative ventures meant increased advertising budgets. Work in the graphic arts expanded. The husband took an additional full-time job, working 80 to 85 hours per week, to save to buy a house.

A better paid position in an advertising firm became available. He took it. The firm expanded. He became its production manager. The boom ran out of steam. Government spending failed to generate any expansion in real productive activity. Labour Party economic management failed. Most of the firms that expanded on the basis of speculative activity, including the one the husband worked in, fell like a

pack of cards.

This lead to the first of four business ventures based on what had been saved for the house. Not till the wife left teaching, to give birth to the first child, when superannuation payments were refunded could they buy a house. Three of the businesses still operate. In each case others got rich but not he. Ownership for security of income without exploitation means growth to survive, competition and another form of alienation.

Learning this from experience was a long slow process. From the first venture he "learned" the selection of partners is the crucial variable. The second "taught" the selection of clients is a critical problem. From the third venture he concluded the central issue was the product type, the field of operation.

So, as a fourth venture, he set up shop selling exotic tropical fish to fanciers. The tropical fish business was awash with quasi-criminal elements. In the depression of the late 1970's the real wages of working people shrank. They spent less on luxuries like pets. The contraction of the market intensified competition

between shops which turned to arson, theft, violence and armed robbery.

It took more than six years before the message was hammered home that joining the system was no way out.

The shop was the idea of two friends; one imported fish, the other had failed in a similar venture previously. One had fish to sell the other equipment. A partnership was entered into with the failed businessman. He worked morning and afternoon. The husband, still involved in a prior venture worked late evenings, evenings and weekends. The business grew. All profits needed to go back into plant and stock. But the partner had to sell his share to pay the debts incurred in the past.

The husband detached himself from the prior commitment. In doing so he he lost all he invested in it. The small savings went in buying out the partner in the shop. The wife, with young child, took over the duties of the partner. The husband got a temporary office job in a government department.

The office job involved organising reports and travel arrangements for four inspectors. They were ex-

servicemen, were very well paid, did very little and were quite reactionary. Much time was spent describing and counting the "lazy" unemployed on the streets outside. Since they did not a lot the clerk had little to do. There was time to read books from the library. Again Marx became the authority against authority and reaction.

The 3rd Labour Government was the last to "control economic activity" by adjusting incomes through consumer spending. In 1976 the National government designed an economic strategy known as "Think Big". In the past the state intervened in welfare spending and left productive investment to the "community". From the end of the long boom this led to inflation without economic growth. Think Big reversed the relation. The "community" was given responsibility for welfare and the state intervened directly into productive investment. The result should have been economic growth without inflation.

One way the community took responsibility for welfare was an increase in foster, as opposed to institutional, care for state wards. Children came out of institutions into social welfare "family homes". Family homes are large houses in which a number of

children are cared for by voluntary, i.e unpaid, foster parents. Generally the children are wards of the state, made so through prosecution or other court action. Foster parents are given free lodging and a sum to cover the costs of the childrens' food and clothing. The foster father continues his employment and the wife cooks, washes and cleans. Together they meet emotional and social needs of 6 to 8, usually teenage, children.

Think Big neither decreased the rate of inflation nor increased the rate of growth. Prices continued to rise and real net wages fell further behind. In the recession of the mid-1970's many families cracked under the strain. The number of children going into care expanded and new family homes were built to accommodate them.

Returning welfare to the community means getting people to do the work for free. Recruiting voluntary foster parents is much more difficult than building family homes. Through contacts in the shop the couple learned of this situation and took over a family home.

Fourteen people eat a lot of food. The wife joined a "food co-operative" so that more fruit and vegetables could be purchased with the money provided. Food co-

operatives buy in bulk in the market and distribute to members. This co-operative was based at a radical book shop, Resistance Books. The shop originated in resistance to imperialist aggression, and New Zealand's involvement, in the war in Vietnam. It was going out of business which enabled the foster parents to buy Lenin classics cheaply.

For some property owners the speculative boom, 1972-76, proved a windfall. Nominal house prices and incomes rose but mortgages stayed fixed. Equity in the fixed asset rose while outstanding repayments fell as a proportion of income. Many people used this situation to move up the housing market. They sold the house they lived in and capitalised the equity, this was used as a deposit for a more expensive home.

The shop was attached to a house. The plant was built into the structure of the shop, and involved an investment of many thousands of dollars. This done the owner of the building decided to sell, to move into a better house. To protect the investment in the plant the couple were forced to sell their home to buy the building containing the shop at an inflated price.

The business was then expanding. Living in the

family home they did not need the house behind the shop. They made major alterations, moved two rooms from the house into the shop, and converted the remainder to a one bedroomed flat.

Fostering put the couple in contact with people paid to help other people, social workers and teachers. Having decided that working for a boss, being a boss and being self-employed were all alienating forms of subsistence the foster father looked for alternatives. It was suggested that being paid to help others develop was a satisfying way of life.

But paid work in the "caring professions" requires qualifications. Leaving school at fifteen means being unqualified even to train for qualifications. A helper in the shop was an economics student at university. He discovered the university had a special four paper course which if passed allowed entry to degree courses. The shop was let to the importer of fish. Living from savings and rent the father completed the course in 1978.

Radical thought in general, "marxism" in particular, was then growing in influence in the university. Each of the papers had some "marxist"

content. It was a relatively easy task to complete the papers since this meant, in the main, reading marxist literature with respect to a particular topic, i.e. building on what was already known.

One topic was the origin and nature of Chinese socialism. Relations between the Chinese and Russian revolutions was appraised; the role of Stalin and the Comintern, the Sino-Soviet split. It was taught that Liu Shao-chi had taken China down the capitalist road and Mao's Cultural Revolution was a return to socialism. It is difficult to consider any of this and ignore the apologetic character of official communist party theorising.

Thus qualified he was accepted for teacher training. Part-time university study was substituted for some papers at college. Trainee teachers were then paid an allowance. Living in the family home allowed the couple to let the flat and the shop. The three incomes covered their basic needs.

In qualification he was equal to other students. He was 33 they around half his age. In most respects this did not matter. People who do well at school and go on to tertiary education disregard such differences.

There is a certainty about the world and the rightfulness of the place in it. The openness comes through not ever having to justify oneself. In able students this breeds an easy familiarity, fraternity.

The equality exists within a known and accepted inequality. Fraternity is between equals. Many students are contemptuous of the great mass of people. They see it as their role to organise and manage unqualified, i.e. "less able", people. This is not just a cynical attitude. They genuinely believe they will manage the majority in the majority's interest, that the masses benefit from their skills and talent.

A background in productive work means knowing that the masses are remarkably competent. This helps to insulate against flights of fancy about the distribution of talent and ability in a society. It means knowing that the real dependency between certified and uncertified people goes the other way round.

Most students were only a little older than the wards in the family home. That the major difference between the two sets of young people were social in origin was obvious. A difference in outcome was that

whereas students describe things in too many ways the wards only described things in terms of personal experience. The myriad of ways often kept students from understanding situations whereas the one way of the wards kept them from understanding the whole situation.

Students are often theoretical dilettantes, this comes through too little regard for evidence or experience. Lacking experience, they have "learn" both which questions to ask and which answers to accept. They are swayed in the direction of which ever teacher came last. Living in the family home and working with students made the fraternity of the latter appear shallow and arrogant and just as dogmatic as the views of the wards.

At College each student spends a few weeks "on section"; i.e., being in a classroom with a trained teacher observing style and technique and developing rapport with pupils. Living in a family home means identifying with the sorts of children who end up in them. These are children who do not recognise convention or authority; they do not know, or they reject, these things. In schools pupils such as these are often being chastised, mocked or punished.

PREFACE

Good teachers need to have confidence in a number of things, that: they are the right people, children learn easily from them; that what was learned in College coincides with what pupils need to know; school rules and authority facilitates pupils learning those things. This confidence comes easy if teaching is the normal course of development. It comes much harder after 18 years in other work and 5 in a family home. School teaching proved just as contradictory, just as alienating as previous work.

The College year ends in Final Assembly. At this two lists of students' names were read out. One was for the students with the best reports. They were invited to take tea with the principal. The other indicated rater less distinction. Students whose names were on this list were required to discuss their "futures" with the dean. The writers' name was on both lists. He conceded to the dean doubts about teaching. The dean thought this a consequence of the radical subjects studied at university, sociology and philosophy, and suggested that study in depth would dispel these doubts. It was mutually agreed that leave should be taken to pursue a full time university course.

Leave from College also meant leave without pay.

Losing this income made it impossible to continue as family home foster parents. The foster father worked in the Christmas vacation and his savings allowed them to stay till May. Then the wife had to return to kindergarten teaching, to support her family while her husband studied. Leaving the family home meant shifting to the small flat behind the shop. Thus they ended up living only a kilometre or so from the houses in which he and his parents grew up in as children.

During the leave-period, the payment of wages to College students was eliminated. The salary was substituted by a bursary. This meant a drop in income from around $6,000 per annum to around $1,000. In turn this meant a return to College was conditional upon the wife working full-time. This would have meant both partners working full-time; an impossibility as they had a young daughter who needed to be looked after. The College was not prepared to extend the period of leave and the writer was unable to continue teacher training. He had to leave and pay back a percentage of the income earned as a college student.

The life review presented to this point substitutes for the conventional literature review. The major function of the latter is to manufacture

questions from other peoples work, i.e. from other people's questions and answers. Reviewing literature is like sorting second hand clothing. You look for things that suit and fit. This sorting is always somewhat arbitrary. What fits, fits because it links to the past i.e. to starting points of previous scholars. What suits is conditioned by the intellectual fads and fashions of the period. The literature review as approach starts from the intellectual foundations of one's discipline as interpreted through the prism of contemporary intellectual fashions.

The standard literature review is often little more than the list of a discipline's current dichotomies and the structure of choices made: first, between valid and invalid dualisms, and second, within the "valid" ones, "or" on some questions and "either" on others. Research is a new synthesis of classical dilemmas. Thus familiarity with the discipline and a terminal sophisticated skepticism is demonstrated.

Is there an alternative to this approach in sociology ? Phenomenologists argue the dilemmas exist only in the mind. If that is true, there are no objective problems; problems like work, income and

alienation are manufactured in the imagination. A difficulty for the phenomenologist is that the writer's problems are not unique. They are not just idiosyncratic speculations. Governments the world over have been addressing them ever since the end of the long boom.

The approach taken in this thesis is to frame and answer questions arising from problems and tensions in everyday life. This approach has both an extra-logical rationale and a profoundly theoretical rationale. Tensions and problems thrown up spontaneously in real life have to be theorised so that precise questions can be framed. One has to ask which conditions cause them and which conditions must be changed in order that they can be resolved.

Wherein lies the difference ? One approach starts in theories, moves to theoretical problems and in the best of cases proceeds from there to real life (more often is just skipping from one theory to another). The other starts with problems in real life, proceeds to an identification of certain key questions and then moves to theory for scientific formulation.

Beyond all theories, life itself is contradictory.

PREFACE

To experience it is to be confronted with a never-ending series of semi-connected paradoxes. Accordingly one continually chooses, either/or, between apparently mutually exclusive options. The paradoxical element is that, on its own, neither option is a real solution; part of what one desires is ruled out in the structure of the choice.

Self-expression appears to be limited to coming down on one side or the other of an infinite set of dualisms: either one is for actually existing socialism and then against democracy or one is for social democracy and against revolution; knowledge from practice (the wards) or from theory (university students); teaching (joining the system) or not teaching (being forced to move out); work (alienation and income) or no work (alienation without income); boss or worker, competition or association, and on it goes.

Shifting from work to full-time university study temporarily shut out out normal pressures and problems. This allowed a temporary reversal in the normal way of looking at things; i.e., starting from the other end of the dilemma. For most academics "base" problems such as work and income are already solved. For this reason

they work with "higher" problems.

Nevertheless most of academia simply points to the inevitability of alienation; there are always two sides to every problem, and then two choices. You can choose only one. The best that can be achieved is the consciousness that each choice rules out some desired goal. Since the whole goal is not available, a subjective choice must be made for the lesser of two evils. This subjective choice is necessarily arbitrary. University education subsides in a dry scholastic fatalism - learning to be satisfied with dissatisfaction.

What, then, were the central problems in the writer's life ? First and foremost, work, income and job satisfaction. It proved possible at times to satisfy one or another of them, but never all three at the same time. The degree to which, and the precise configuration in which, they impacted varied: they were less acute in the 1960s than they have been ever since; in the 1960s income was most important. From 1970, security of work became more critical, from the mid-1970s all three impact simultaneously.

The immediate question that arising from these

problems of everyday life is: "what is the relation between personal work-experience and the range and types of jobs available in society ?". This led the writer to a more abstract consideration of the forces that produce and distribute jobs in the society, i.e. the social organisation of labour. In turn, this posed a further question, "why does the level of economic activity in the society fluctuate ?".

To answer this question, one needs to know the connection between social organisation of labour and alterations in the rate of economic growth. Answering this question poses another, "is it possible to alter the social organisation of labour such that the practical problems of work, income and alienation can be resolved ?".

The central problems addressed in this thesis were first posed for me on the streets, in the political debates of 1959. Two alternate solutions were proposed. The communist argued capitalism, which had been decaying since the beginning of the century, was doomed. Labourists said economic downturns were only inevitable without state intervention. The communist solution to the everyday problems of working people was to build a new Russia; the labourist solution was to

build a state machine to regulate economic affairs. Labourists rejected revolution because it took away political democracy. Communists rejected reform because it fails to produce economic democracy.

Each looked at the outcome of the other and found it profoundly distasteful. Both camps acknowledged certain difficulties inherent in their particular solution, but saw it as the best of all possible worlds. Academics looked at both outcomes and saw only what was common - "bureaucracy" - and a universal dilemma: rational state organisation or free individual action.

The questions posed in this thesis remain those posed by life. But the further one goes away from everyday life, from practice and experience, the more complicated and remote the way the questions are posed. In the immediacy of everyday experience, the problems of work, income and alienation are posed practically. In political life, they reappear as choices between reform and revolution. But although in the world of Realpolitik bureaucrats might have solved work and income problems, they intensify the problem of alienation by "acting on one's behalf". Take the same problems to the university and they will proliferate in

a myriad of nuanced dualisms.

The more remote life experience is from the problems of work and income, the less vital the way the questions are posed; sooner or later a point is reached where their solution is no longer imperative. One is left with a barren scholastic pessimism.

What is generally overlooked is the possibility that the equations in the dualistic formulae can be solved simultaneously. Remaining wholly immersed in practical affairs means ending up with an empirical outlook and scores of unrelated questions. A theoretical beginning leads to endless argument about the validity of questions. The way out of the contradiction between theory and practice is to theorise the questions from practice without dissolving them into theoretical questions. The function of theory is not merely to restate the problems of life but to resolve them - or, as Karl Marx put it at a turning-point in his intellectual journey, "philosophers interpret the world this way and that way when the whole point is to change it".

Often dilemmas result from problem-blindness, of seeing too few options. Thus, for example, the Russian

or reformist road. Experience, politics and university dons all taught "Russia or reformism". But the choice stated this way assumes that "actually existing socialism", in Russia or elsewhere, is the necessary conclusion to a workers' revolution. On this assumption, any workers' revolution must inevitably produce the same outcome.

The writer remained caught in the trap until he discovered the aims and aspirations of the leaders of the Russian revolution. Neither Lenin, nor Trotsky, nor Stalin nor indeed any significant Bolshevik leader thought prior to the revolution that it would be possible to create socialism in backward Russia alone.

The October revolution was an attempt to resolve specific practical problems in Russia. Knowledge that a revolution was necessary was acquired through practice. The immediate problem to be solved was that of the social force that could make the revolution. The answer was the proletariat. Once it was known, it became obvious that the revolution would be a socialist revolution.

Theoretical work by Lenin, Trotsky and others involved much more here than pointing to flaws in the

two options of a dilemma, capitalism or socialism. But theory alone could not overcome Russia's backwardness. In so far as this problem could be solved, this would be by socialist revolution in the more advanced west. Lenin and Trotsky were capable of considering both the universal and particular simultaneously in a non-arbitrary way. The world was ripe for socialism; Russia was not. Russia had to change but on its own could not achieve socialism.

Practice on its own leads to a profound but partial understanding of particular problems; it never links them to general issues. The university with its pure theory misses particularity by asserting what is "universal". For this reason university people continually discover irresolvable dilemmas that are constants in human history.

Discovering Lenin and Trotsky was to some extent accidental. Not one university course taught Lenin or Trotsky (Stalin and Mao were taught systematically). The peculiarities of my life instilled the need to preserve the integrity, and reality, of both the general and the particular. Neither sociology nor academic "marxism" satisfied this requirement. Revolutionary marxism extended this premise from life;

it showed not only the possibility of linking the two in a rigorous way, but also that in looking at the particular through the general the integrity of personal experience is enhanced and that theory is, more or less, continuous with life.

This principle of viewing the particular through the general, which is grossly underestimated in most accounts of "Marx's method", has been the guiding thread for all that follows. Solving the riddle of reform or revolution led to a study of works in the tradition of revolutionary marxism - through the documents of the early congresses of the Communist International to Trotsky's social and political analyses of the 1930's and 40's and, eventually, to the documents of the Fourth International.

Trotsky's brilliant analyses inspired this research (hence the title "Where is New Zealand Going ?"). The lucidity of these analyses, however, was built upon a profound understanding of the direction of economic developments. In New Zealand there is no substantial tradition of economic history. This study seeks to fill at least part of the gap. It represents a first step in a research programme to gain an answer to the question "Wither New Zealand society ?"

INTRODUCTION

"We have prepared ourselves for this crisis by studying, by building a scientific method, and our method is Marxism. Then the crisis comes along and Mr. Macdonald says "be sceptical of all theories," and talks about devotion to the revolution without replacing it with any new theory. Unless it is this sceptical theory of his own. ... It is very characteristic of the disappointed intellectual. He sees the war, the terrible epoch ahead, with losses, with sacrifices, and he is afraid. He begins to propagate scepticism and still he believes it is possible to unify scepticism with revolutionary devotion. We can only develop a revolutionary devotion if we are sure it is rational and possible, and we cannot have such assurances without a working theory."

Leon Trotsky, 1939 [1]

In 1979, the influence of marxism in the Sociology Department at the University of Canterbury was at its peak. Almost half of the introductory course was taught from a marxist or neo-marxist perspective. A central focus of the course was New Zealand's place in the world economy and its consequences for New Zealand society. The intellectual climate was one of anxiety and uncertainty. Dire forecasts were made: a massive economic recession; a redistribution of a declining national income from the poor to the rich, and consequently growing social inequality; 400,000 unemployed people by 1986; intensified class struggle and so on.

INTRODUCTION

This study is an attempt by one member of the "class of '79" to come to grips with the central themes and concerns of that introductory course in a more serious way. It seeks to ground these concerns systematically in empirical analysis. Ironically, by 1985 the self-styled marxist lecturers were so shaken by the "crisis of marxism" that they forgot all about the generalised crisis of society.

Their "loss of faith" is, in and of itself, a small matter. In university departments intellectual fashions come and go, and have always done so. But for us it poses a challenge. The challenge is that, having broken with marxism themselves, these lecturers now consider that the concerns and approach of this study are "not sociological" in character. As our research is submitted for a doctoral degree in sociology, a reply to such criticism is in order.

Whether or not the content or form of this study is viewed as "sociological" depends on how one views the so-called "crisis of marxism". Marxism definitely was sociology before its "crisis". Lecturers referred to themselves - and received their pay - as professional sociologists while teaching marxism. It is excluded from sociology after its "crisis". Yet, to

our knowledge, not one ex-(or "post-") marxist lecturer has offered to reimburse his or her salary to the university on the ground that they were not practising sociology when they were teaching marxism.

Now, most sociologists claim to practise a social science, and scientists seek to adopt good theories and reject bad ones. The explanation for the non-sociological status of marxism today must therefore be sought in the circumstances that revealed to sociologists that marxism is fatally flawed, i.e. the discovery of the "crisis of marxism" and the consequent "loss of faith".

These circumstances are evidently not unique to Canterbury University, and demand sociological analysis [2]. If only a handful of sociologists at Canterbury were involved, the loss of faith could be attributed to some strange quirk of collective psychology. But the world over, intellectuals - sociologists and non-sociologists alike - have broken their allegiance. The volte-face is remarkable both for its breadth and its pace. The shift from the first niggling doubts to the break with marxism took place within the space of a few years [3].

Even more remarkable than the rate of disillusionment, however, is the range of opinion about the nature of marxisms' "crisis". Nearly every ex-marxist gives a different set of compelling reasons for his or her break with "the false dogmas of marxism". The vast number of different and more or less complex reasons makes the compilation of an exhaustive list impossible as well as impracticable. A typology of the main themes is more useful.

There is, first of all, the idea that Marx's description of 19th century society may have been right but his analysis was wrong. Twentieth century development, it is argued, has moved in directions other than those that Marx anticipated. It is observed that there have been no working class revolutions in the developed capitalist countries; the working class by implication has no revolutionary potential - either because it is economically so well integrated in the bourgeois society that it does not want to make revolution, or because the class has shrunk so much relative to the total population that it cannot play its vanguard role anymore even if it wanted to [4].

Another category of criticism revolves around the idea that "actually existing socialism" is no less

brutal and de-humanising than other forms of social organisation. Again it is inferred that Marx's analysis of social inequality is flawed: Marx's (and/or Lenin's) prescriptions to cure inequality and alienation just changed the symptoms, but did not alleviate the sickness (alternatively, the harmful side-effects cancelled out the beneficial effects). Either human nature is simply not as socially relative as Marx thought it to be; or the size and complexity of modern society makes social equality and the withering away of the state a utopian dream; or the base-superstructure analogy vastly exaggerates the influence of material conditions and contemptuously downplays the power of human subjectivities; and so on ad infinitum ... [5].

A third category locates the fatal flaw in the central place Marx assigns to the contradiction between capital and labour. Either the sin here is one of omission (inability to explain, or ignoring, the centrality of the ecological crisis, the population crisis, the crisis of nuclear war, the energy crisis etc.), one of displacement (Marx ignores patriarchy as the most fundamental basis of social inequality, preceding class society and persisting in "actually existing socialist" societies), or one of reduction (of

the working classes to the working class; of the state to class struggle; of democracy to class dictatorship; of social relations to class relations; of sexual, "racial", ethnic-national inequalities/struggles to class inequalities/struggles; of the capacity to make revolution to the working class; and so on). Whatever the case, the "one-sidedness" proves to be fatal [6].

Even within this simple (and no doubt incomplete) typology, the diversity of opinion about the nature of the "crisis of marxism" is striking. Even more striking is the lack of originality in the critiques. Not one of the "fatal flaws" is a recent discovery; most the relevant objections were first made around the turn of the 20th century or at the time of the October revolution. Most striking of all is that while the old, wellknown critiques did not deter sociologists from venturing into marxism, they were pressed into service all the same at the time of their exit [7].

Contemporary anti-marxist academics fall in two groups. There are those who never went through a marxist phase; and there are those who claimed to have seen the errors of their ways (ex-, post-, or neo-marxists) [8]. The latter, having personally gone through the marxist experience instead of observing it

from afar, consider themselves better qualified to pronounce the death of marxism [9]. Allowances should be made for this distinction. The two groups of critics will be dealt with separately, starting with the ex-, post- and neo-marxists.

At bottom, their objection to marxism is simply that it cannot make sense of contemporary social and political events. A marxist reply to this objection can be made by way of a brief analysis of the current social, political and economic conjuncture. This will not only establish what "sense" marxism can make of the conjuncture, but also will help to explain why the modern "renegades" [10] think it necessary to abandon marxism.

The basics of the marxian analysis

It is an axiom of marxist sociology that when there is not enough to go around, what is available will not be shared equally [11]. In periods of economic crisis, national wealth declines relative to the population. Those who are stronger will use their strength to shift the burden of the shrinking economic pie on to those who are weaker. The weak are always

forced to carry a disproportionate share of the burden in a depression.

When e.g. there is a shortage of jobs, individual workers must compete with each other for employment. This has extremely important social consequences. These consequences are magnified when workers have to compete not just for better jobs but for any job at all. Every other potential applicant is treated as a hostile alien seeking to deny them the opportunity of a job. Job seekers actively look for and exaggerate differences between people, to justify why people like themselves should get jobs first. They will stress secondary and natural differences. They will more or less consciously discriminate on the basis of such things as sex, age, skin-colour and ethnicity.

This tendency is less apparent at the beginning of the economic crisis, during the initial showdowns between bosses and workers [12]. At that point, the working class is relatively strong in terms of morale and organisation. The economic downturn provokes a militant response. But if the crisis wears on and deepens, the working class loses the initiative. Its actions become more and more defensive in character: it no longer struggles to make new gains because its

strength is sapped in the defence of past gains.

The initiative now passes to the bosses who, no longer satisfied with placing limits on wages ("incomes policies"), start attacking the strongholds of working class solidarity: trade union organisations, political and social institutions (working class parties, social welfare provisions, etc.).

In a protracted crisis, the general level of conflict and tension in society will nevertheless rise after the initial battle shocks subside. For a whole period, intra-class conflict is inevitable. At the core of the resulting social and political fragmentation is the elementary fact that there are not enough jobs to go around. To protect their jobs, people cultivate institutionalised discrimination.

However, the victims of discrimination are also radicalised; social movements emerge to fight oppression. But at best the social movements are only capable of reallocating scarcity. Attempts at institutionalising "positive discrimination" lead to even more social division. Different social movements compete for the same scarce resources, because each has a different priority for their allocation. The self-

destruction of the feminist movement illustrated the operation of this process in a stark fashion [13].

Logically the ultimate result is bella omni contra omnes among atomised individuals, or as economists might say, "perfect competition". But there comes a point where scarcity can no longer be passed off onto sections of the working class. If e.g. the number of jobs is insufficient even to employ the perpetrators of discrimination, discriminatory institutions no longer perform their allocating functions. Before the war of all against all is reached, scarcity begins to reunite workers, redirecting the struggle back to class-wide demands.

Dimensions of the current crisis in New Zealand

The scale of the current economic crisis in New Zealand can be seen in Graph 0:1. The graph traces annual GDP for the period 1948-1984 in constant 1984 dollars. The solid line reports actual totals; the dashed line projects the average growth rate over the 1948-1973 period to 1984. The region between these two lines gives the crisis a definite magnitude. From 1973, the economy has hardly grown at all. If the average

growth rate during the long boom had been maintained, GDP would have been a little over 60 billion dollars, i.e. about 50% higher than actual GDP. Other things being equal, therefore, there would have been fifty percent more jobs in the economy. Had there been a crisis, it would have been one of acute labour shortage ("overfull employment"), not a job shortage (under-employment). In other words, it would have been a crisis only for the bosses, not for the workers.

Since the early 1970s, the economic crisis has penetrated every pore of social life, promoting and intensifying racism, sexism, ageism, xenophobia, regional disparities, environmental destruction, crime and violence, etc. Each problem became the target of a particular social movement [14]. Gradually the economic crisis grew over into a social crisis and subsequently a political crisis.

Intensified competition for jobs in the 1970's led to racism, sexism, ageism: competition between men and women, black and white, black and white women, younger and older black women... each group split into finer and finer gradations and categories ad finem [15].

The reorientation of trade union objectives from

preserving jobs to negotiating redundancy agreements was a signal that the upper echelons of labour movement accepted the "reality" of job losses [16]. Given rising levels of unemployment and falling real incomes, this meant breaking the unity of the class as a whole. Class fractions were left to determine which section of the working class would carry the weight of the crisis through internecine intra-class struggle.

Under this pressure, traditional forms of association (the trade-union movement; national councils of churches, women, Maoris, students, farmers etc.; the political parties) were all stretched to contain growing inequality and social differentiation. As traditional institutions moved from offensive to defensive postures, social movements became supplementary forms of social solidarity.

The new radicals who formed the social movements rejected the defensive posture of the traditional organisations. They provided an alternative perspective on class struggle and reformism. In this way, disaffected and marginalised layers were partially re-integrated in society [17].

But through this re-integration, the discriminated

came to see the traditional organisations as instruments for their oppression. Radicalised women rejected trade unions as tools men used to protect their jobs against women [18]. Many working people came to see the Labour Party as the means by which the well-educated and articulate - the "middle classes" - preserved their incomes [19].

As class-based institutions increasingly accepted social inequality, the social movements challenged and in part supplanted them [20]. The axis of the offensive altered however. For example, the struggle for jobs and workers' rights as such gave way to a struggle for jobs, rights and opportunities for particular groups of workers [21]. Nevertheless, the social movements for some time acted as a conduit for the class struggle. Marxist radicals discovered revolutionary potentials in oppressed people. For some of them, the social movements constituted the "vanguard" of the working class [22].

Classical marxism and the centrality of the slogan "jobs for all who want them" were seen as utopian by trade unionists and as "vulgar marxism" or "workerist" by the new radicals [23]. The latter supported demands by social movements that e.g. a proportionate number

of jobs available in each occupation should be reserved for oppressed people. In effect, these were demands on some of those with jobs to give them to others in the name of equality. Predictably the mass of workers failed to comply, whereupon these "marxists" gave up on workers as agents morally suited to the task of building socialism [24].

But the new vanguards for social change failed as well. Social movements crumbled under the pressures that produced them. Coalitions to fight racism were split internally by the fact that such alliances assigned a subordinate role to the struggle of women against men. In turn, coalitions of women split along lines of class and "race" . From the late 1970's, the underlying tendency for all forms of association was towards fewer and less fraternal/sororial relations [25].

Competition has increasingly replaced association as the principle of social co-ordination [26]. No relations and no forms of solidarity have remained immune to these pressures. Increased scarcity and intensified competition have dissolved political parties just as easily as they have dissolved families.

INTRODUCTION

The nature of the political crisis

The current political crisis in New Zealand is both a cause and a consequence of the level of the social and economic crisis. Economic crisis is protracted when both the working class and the capitalist class are unable to impose their solution on the crisis, i.e. in a situation of stalemate. Each class is powerful enough to prevent its own defeat but neither class is powerful enough to defeat the other. The crisis will be resolved only when one class is strong enough to defeat the other class [27].

Again, this is not some marxist dogma. The rapid succession of charismatic party leaders in the last 15 years make the crisis quite evident [28]. The most striking case is that of the National Party: Holyoake-Marshall-Muldoon-McLay-Bolger. In the previous political era, Holyoake held office for 16 years. Subsequently, the average longevity of political leaders fell to one-fifth of its former level. Each was presented as a new charismatic leader that would unite the nation behind a definite strategy to solve the economic crisis. But the charisma faded in the face of the intractable nature of the economic problem [29].

INTRODUCTION

Standing between a class and its defeat is its organisational strength. If the trade union movement is completely broken, the bosses can force their solution on the workers. Nor is this just a dogma of marxist theory. Around the world, parties of the bourgeoisie are searching for ways to smash the trade union movement [30] . In New Zealand, both the National Party and the Labour Party affirm the need to "restructure industrial relations" - to bring "flexibility to the labour market" [31].

At the time of writing, official unemployment is about six percent. But if the economic crisis deepens and unemployment climbs to about 30 percent, it will not be possible anymore to pass on the burden of low wages and no jobs to maori, female and young workers. Any sudden massive increase in the rate of unemployment will compel workers to choose between a workers' solution to the crisis or fascism.

A fascist solution would in the present context mean an alliance between workers in jobs and the bosses against the unemployed. In France, Le Pen's fascist party polled 10% in the 1986 election [32]. In New Zealand the tendency towards fascism is much less developed. But the signs are there. In the province

of Southland, for instance, meat workers were told recently that at least one shed would have to close. The response of workers in the least technically advanced plant was to accept a thirty percent wage cut - to ensure that not theirs but another works would close, i.e. that other workers would lose the jobs.

But a fascist solution is not inevitable. The alternative is that workers temporarily put aside differences among themselves while they deal with their difference with the bosses. This solution requires a political party to unite workers as a class, i.e. to override the social crisis in order to smash the bourgeois state, the central organising principle of bosses [33].

The first political initiative of workers to resolve the crisis was to elect the Fourth Labour Government. But this Government opts to manage the crisis on behalf of the bosses - on its own admission with rigour and consistency [34]. In return, the union bureaucracy has offered the Labour Party an "accord". The "accord" proposes that the trade union movement influences workers to accept Labour Government austerity policies, "wage restraint", without a fightback and to re-elect the Labour Government ... if

the Labour Party accepts a FOL "ten-point programme". The main feature of this programme is the preservation of the National Award system (coverage of all workers in an occupation by the same minimum rates) and nation-wide unions [35].

Under the pressure of the long depression, the Labour Government has rejected the possibility of reforming capitalism. State controls regulating economic relations are being systematically removed in favour of market mechanisms [36]. In a recent Green Paper, the Government envisages an end to the national award system [37]. Wages, so the argument goes, should reflect the ability of the particular company to pay: they should be linked to company profitability. Of course, this requires that national unions are replaced by "American-style" company unions [38].

Whereas Labour's solution to the crisis is a bosses' one (integration of workers' organisations into the structure of the firm), the accord proposed by the trade union bureaucracy is corporatist. Corporatist philosophy states the crisis can be managed "if only each class gives and takes a little". The medium-term goal of the accord is a new social contract: greater integration of the trade union movement into the state

apparatus. Once part of the state apparatus, so the argument goes, the trade union movement will reform the bourgeois state from the inside [39].

The weakness of the trade union movement and the extent of its leaders' retreat can be gauged by their explicit statement that what is on offer in the "accord" is not at all conditional upon the Labour Government accepting the terms. Only the Labour Party is required to do so.

From a revolutionary marxist standpoint, there can be no permanent solution to the crisis short of the victory of working class. Even a temporary cessation of the crisis is predicated upon the defeat of one class. The trade union leadership, however exemplary, cannot impose a workers' solution on the crisis. A working class victory requires both independent trade unions and a revolutionary political party that can unite the vast majority of the class behind the workers' resolution: a socialist revolution [40].

Crisis of capitalism or crisis of marxism ?

A brief marxist analysis of the conjuncture has

been presented. A comprehensive analysis would require attention to all sorts of mediating factors, the more subtle interconnections between basic and secondary trends, etc. But we only need to demonstrate that the emergence of social movements is not a surprise to revolutionary marxists. To the contrary: given the nature of the period, it is precisely what they would expect.

"Whither then the crisis of marxism ?" Why have people - without apparent good reason - "lost faith" in the theoretical system at precisely the moment its boldest predictions (incapacity of the state to manage the economy; inevitability of economic crises; relative immiseration of the working class, etc.) are so strikingly confirmed ? The "rational kernel" of the "crisis of marxism" thesis lies in a combination of three factors: the emergence in the 1970's of the social movements; the crisis of revolutionary leadership bound up with it; and the crisis of Stalinism.

The rise of social movements of mixed-class composition provided a rational basis in the academic world for the critique of marxism [41]. In the first instance, this critique claimed a failure to address

the key issues of the modern era [42]. Marxism failed because it did not address problems such as gender, "racial" and ethnic inequalities, wars, and destruction of the environment [43].

But the "sins of omission" theorem is just false. The emergence of the "new" social movements was not surprising to revolutionary marxists in good part because the social movements were not without precedent.

Thus the Founding Congress of the Communist International analysed the issue of peace in the "Theses on the International Situation and the Policy of the Entente" (1919), the 2nd Congress (1920) took up the "National and Colonial Question", the 3rd Congress (1921) dealt with issues relating to Women, the 4th Congress (1922) the issue of "race" ("Theses on the Black Question"), and so on [44]. As to the despoilation of the environment, it has always been a fundamental axiom of marxism that rational management of resources is impossible in capitalist society. Marx already stressed in the first volume of Capital that capitalism can develop the productive forces only at the expense of the two principal sources of wealth: the worker and the soil [45].

In this light, it seems all the more perplexing that marxists could have been surprised by the turn of events. Whence then the source of the disillusionment with marxism ? This question leads us immediately to another question, namely: what brought today's disillusioned ex-marxists to marxism in the first place ? Revolutionary marxism proscribes explanations of human actions simply in terms of the overt or covert reasons given for them. These reasons must be examined in the light of the relevant material and social circumstances. The more general the actions or reasons, the more one must look for objective social causes.

There is a definite correlation between the popularity of marxist theory and the level of class struggle nationally and internationally. In the period since the Second World War, there were two major influxes of academics into marxism. The first wave corresponded to a shift in the centre of gravity of the world revolution in the 1950's and 60's - from the West to the East, i.e., the colonial revolution. The second corresponded to the rise in the level of class struggle in the developed countries in the late 1960's and 70's.

The roots of the apparent "crisis of marxism" can

accordingly be located in two distinct but interrelated real crises: the crisis of Stalinism and the crisis of revolutionary leadership.

The crisis of stalinism consists, in essence, in the inability to produce socialism in single, isolated and economically backward countries. To date, the stalinist leaderships in post-capitalist societies have been unable to move socialist construction beyond a certain point without increased state repression and intensifying social inequality. This state repression, the lack of democracy and social inequality can be justified by intellectuals, but only so long as there is real economic progress or a real threat of imperialist aggression. Once the immediate threat of imperialist aggression is removed, the task of justification becomes much more difficult. When post-capitalist countries also cease to show significant economic progress, only literary hacks for "official" communist parties continue to defend them as "beacons of socialism" [46].

The "second wave" of sociologists into marxism corresponded to the rise in the level of class struggle in the advanced capitalist countries at the end of the long boom. At that time, workers were united in

attempts to maintain standards of living conquered in the previous twenty years. Since the recession of the mid-1970's, economic conditions have remained depressed however. A new generation of workers came on to the labour market but the economy failed to grow fast enough to employ them. Each recession was deeper than the last. As the traditional leadership of the working class capitulated to the logic of profitability, the overriding concern of most workers shifted from maintaining working conditions to maintaining their jobs as such. When the class struggle faltered, and many workers accepted the permanent unemployment of other workers, most of the "new left" sociologists abandoned the ordinary wage-earner as a revolutionary subject [47].

For a period, many thought that when the unemployment rate reached a certain level, the revolution would begin. The rate of unemployment rose beyond that level but instead of revolution the level of class struggle declined [48]. This circumstance was interpreted as evidence refuting the notion that workers could ever make a socialist revolution. After all, if under such favourable conditions the class struggle degenerated into an internecine war among workers, it would be unrealistic to expect individual

workers to subordinate their self-interest to the interest of their class under any circumstances.

This mechanistic view has nothing in common with the revolutionary marxist concept of the logic of class struggle [48]. For revolutionary marxists, and short of the total collapse of capitalism, the reunification of the workers' movement and socialist revolution can only take place given a leadership which is able to overcome the dynamic of intra-class competition. The current situation and the need for a leadership to advance class interests is aptly formulated in Trotsky's remark that

> "All talk to the effect that historical conditions have not yet "ripened" for socialism is the product of ignorance or conscious deception. The objective prerequisites for the proletarian revolution have not only "ripened"; they have begun to get somewhat rotten. Without a socialist revolution, in the next historical period at that, a catastrophe threatens the whole culture of mankind. It is now the turn of the proletariat, i.e., chiefly of its revolutionary vanguard. The historical crisis of mankind is reduced to the crisis of the revolutionary leadership" [49].

Social democracy in the tracks of revolutionary marxism

For many, the notion the world's problems reduce to the crisis of revolutionary leadership is a leftist over-simplification and ad hoc (unscientific). Social democrats, for example, argue that it is time revolutionaries admitted the error of their ways: the "crisis of leadership" theorem is simply a smokescreen for the lack of the workers' revolutionary potential. To maintain their false theorem, revolutionaries are compelled to reduce all problems of modern social life to a lack of political skill and/or will - which, surely, is untenable ...? [50].

Revolutionary marxists can reply to this charge with a tu quoque argument. Social democrats look back to the long boom for confirmation of their ideas [51]. On the one hand, the long boom falsified Marx's economic theories (and thereby the objective historical basis in which revolutionary marxists claim to ground their revolutionary devotion) . On the other hand, more than twenty years of semi-permanent economic growth prove that the state can manage crisis-free capitalist development [52]. For social democrats, the current crisis is one of state management: economic managers do

not manage properly anymore. But the crisis of mismanagement also reduces to a crisis of leadership.

Why do the economic managers not manage properly anymore ? There are two possible answers. Either social or political-economic conditions prevent (at least periodically) "proper management", or the modern-day managers lack the skill or will of their predecessors. The former option is ruled out by the first premise of social-democracy, to wit that capitalism can be managed. The crisis of social relations in the last instance can therefore only lie in the subjective deficiencies of modern-day economic managers.

In reply to social democrats who would rule marxism out of sociology on the ground that its economics is flawed, we need only point to the current world situation. Anyone capable of an objective comparison of the actual trends of historical development since 1920 with the conception of the epoch and prognoses of the first four congresses of the Comintern can only conclude the predictions have been amply fulfilled [53].

Some argue that the "crisis of marxism" is a

crisis of marxist political practice. They point to the inability of revolutionary marxists since 1917 to lead the proletariat in a successful socialist revolution. In our view history has yet to draw the final balance sheet here. Undoubtedly the way in which the current crisis of social relations is resolved will stand as an important test. Is this a dogmatic position ?

Has revolutionary marxism not already had enough time and opportunity to prove its point ? Social democrats, for example, are always asking revolutionary marxists just how much time they need to deliver the revolution ? The rather obvious reply is that the net result of a century of tinkering with capitalism, the "gradual maturation" of socialism through acts of parliament and reforms, etc. is the near-universal acknowledgement that socialism is a utopia: capitalism is a beast that cannot be tamed and must be left alone.

If the "flaws" of marxism relate to its "slow delivery", the ascent of the social democratic snail is so slow that it slides backwards down its own trail. Yet, to our knowledge, no sociologist has argued that "policy analysts" working in the social democratic tradition should be purged from his discipline.

INTRODUCTION

Does marxism measure up to sociology ?

The classical rivals of marxism in sociology are Durkheim and Weber, contemporaries of Lenin, Luxemburg and Trotsky [54]. Durkheim and Weber both made broad historical predictions around the time that the Third International did. Durkheim forecasted diminishing social tension, less conflict and more social integration. Weber predicted the routinisation of social action: bureaucratic norms and institutions would replace the protestant work ethic of capitalist entrepreneurs as the social co-ordinating principle [55].

Except perhaps for a brief period in the late 1950's and early 60's, Durkheim's forecast is the exception rather than the rule [56]. A better case could be made for Weber. From the depression of the 1930's to the end of the long boom in the early 1970's, most governments attempted to manage their national economy along Keynesian lines. For a whole period - the era of the welfare state, the mixed economy and neo-capitalism - the state apparatus was expanded in size and influence [57]. But from the mid-1970's there has been a worldwide reaction against the big state and

bureaucratic management of the economy. The whole thrust of Reaganomics, Thatcherism, and Rogernomics (i.e. supply-side economics) is, so to speak, to "re-invent the corporation": to eradicate bureaucratic routinism and resurrect the entrepreneurial spirit [58].

At best, Durkheim's "consensus" was achieved for about ten out of sixty years. Weber's thesis stands up a little better. In New Zealand it had a certain credibility over the period 1936-1975. So, if "flaws" inhere in the inability to predict and explain broad trends in historical development, and if on this ground revolutionary marxism fails to measure up to the standard required for sociology, Weber and Durkheim are the first to fall down, leaving the universe of sociological theory a rather lonely place.

Another "fatal" flaw of marxism is discovered in an apparent disjuncture between the promise of socialism, Marx's visionary images, and the actuality of "actually existing socialism" [59]. Combining the obvious fact that stalinism is in crisis with the assumption that stalinism = marxism, they conclude that marxism too must be in crisis. Before an equal sign can be put between the crisis of stalinism and a

"crisis of marxism", however, it must first be proven that the dogma of official communism in post-capitalist societies is revolutionary marxism.

Here is the snag. It is impossible to prove that stalinism = revolutionary marxism, because stalinism broke with revolutionary marxism the moment it proclaimed the possibility of attaining socialism in single, isolated, economically backward societies [60]. The crisis of stalinism is not a "crisis for marxism". It is the other way round: the crisis of stalinism confirms the fundamental hypotheses of revolutionary marxism. The entire subsequent evolution of stalinism has led further and further away from the fundamentals of marxism. (Stalinism was neither the first nor the last current in the socialist movement to break with marxism under the impact of political pressures. The distinction between "revolutionary" and "other marxisms" raises a number of problems not at issue here, and is taken up in a separate appendix to this volume).

The equation of stalinism and marxism is either a product of ignorance or a scurrilous technique used to discredit socialism and marxism in the eyes of ordinary working people. In the field of politics, this type of

slander tactic is to be expected. But more can be expected from sociologists than a mere echo from the political arena. After all, scholars profess the virtues of scientific detachment and painstaking, global inquiry. When sociologists repeat slanders they betray their principles, either objective detachment or rigorous, all-encompassing inquiry [61].

If the difference between stalinism and revolutionary marxism was a very tenuous or novel one, sociologists could be excused for failing to recognise it. The fact is that the distinction is neither new nor subtle. It was recognised by Lenin and Trotsky. Stalin, too, recognised it - hence the wholesale liquidation of the bolshevik "old guard" through imprisonment, show trials and executions [62].

The most polite assessment that can be made of those who demand the exclusion of marxism from sociology on account of the crimes of stalinism is that they lack discernment: they want to throw out the marxist baby with the stalinist bathwater.

Reactionaries who were never marxists are politically and ideologically blind to the categorical distinction between stalinism and marxism because they

lack any imperative to discover stalinism's anti-marxian character. In contrast, those who lost faith in marxism because of the crisis of stalinism are problem-blinded by their biography. Marxism is equated to stalinism because the "marxism" was acquired under the tutelage of "official communism", i.e. stalinism.

Is marxism sociological ?

So far, we have examined a number of proposals that marxism should be banished from sociology because of its alleged "deficiencies". All have been found wanting. Some "fatal flaws" proved to be strengths. Others derived from misplaced objections. Even if one concedes that marxism has shortcomings, these are shared in more than equal measure by its rivals. Any objective assessment of its track-record leads to the conclusion that the predictive and explanatory power of marxism is at the very least equal to its sociological competitors.

In the last instance, the only conceivable ground for the exclusion of marxism from sociology is that marxism is simply "not sociological" - in other words,

that it is a school of thought which neither employs the reasoning nor addresses the problems specific to sociology.

Proponents of this view - their numbers appear to be growing - start out from an acceptance of the traditional division of labour between various social scientific disciplines. Within this framework, the "political" aspect of human behaviour is the proper domain of inquiry for political science; economics should deal with its "economic" aspect, geography with its "spatial" aspect, history with its "temporal" aspect, and so on.

To laypeople in search of an explanation for a particular trend, event or phenomenon, it might appear that this division of labour has a sound rational basis i.e. that some things require "economic" explanations, others "geographic" explanations, etc., because of the nature of the given problem. Of course, some problems might have a number of dimensions, in which case sociologists would address the social aspect, economists the economic aspect, political scientists the political aspect, and so on. The complete solution to the problem would then be the sum total of the explanations.

In reality matters are quite different. Each department formally poses its own problems in splendid isolation. Occasionally academics may stoop to consider questions of general concern, but only where a demonstrable overlap exists between public issues and the personal concerns of the scholar. Thus e.g. professional sociologists take pride in distinguishing between sociological problems and social problems. For example, the high incidence of divorce might present a social problem in view of a manifest housing shortage; whereas the high incidence of marriage might constitute a sociological problem.

In all probability, the reason why marriage should be problematic for some sociologists will not be at all obvious to the layperson. But that is precisely why laypeople are laypeople. Outside their own field, academics are just as much laypeople as factory workers who have never come close to a university. The corollary is that each discipline poses its own problems, formulates its own problem-solving strategies, and supplies its own answers. Novices (undergraduate students) have to be initiated into the relevant "forms of knowledge" in order to learn the specific problems of the given discipline, the approach taken to these problems, and what will count as a valid

taken to these problems, and what will count as a valid answer [63].

Historically disciplines taught at the university emerged at different times. Each new discipline typically converts a peripheral concern of an existing discipline into its central object of inquiry. Thus, for example, Adam Smith took political economy out of moral philosophy. Afterwards, politics and economics parted company. Psychology emerged out of epistemology and biology, and so on [64].

After the spheres of influence for the various disciplines had been more or less fixed, what was left as an object for sociological inquiry was human culture. The intellectual roots of sociology are actually quite diverse; it inherited a ragbag of unsolved problems - remnants from developmental psychology (Cooley and Mead), economics (Pareto, Weber, Parsons, Veblen), philosophy (Comte, Simmel, Mannheim, Thomas), anthropology (Durkheim, Malinowski, Levi-Strauss) [65].

But the meaning attached to "culture" by sociologists is extremely restricted. It is reserved for purely subjective phenomena: ideals, norms, morals,

attitudes, psyches, spirits, ethos, symbols, sentiments, self-images, the conscience collectif, beliefs, values - in short, subjective affinities shared by persons which form the immediate motivation for social activity. These were the phenomena that thinkers with the strongest sociological credentials (e.g. Durkheim and Weber) were centrally concerned with [66]. Norms, values, beliefs etc. are formally the only independent variables to which sociologists can legitimately turn in their attempts to understand and explain social behaviour.

It has been argued that marxism cannot be ousted from sociology on the ground that it fails to measure up to the proven standards of its Weberian and Durkheimian rivals. But can such an exclusion be justified on the ground that the explanatory variables marxism posits are "non-cultural" ?

The short answer is clearly no. The very essence of the materialist conception of history is that social forms and human behaviour are historically relative to the prevailing culture. The issue at stake in the disagreement between sociologists and marxists is not the role of culture in the development of society - here they are in complete agreement - but the

constitution of culture. Marxists use the concept of culture in its original, broad meaning which contrasted it with nature: what is acquired through human effort is contrasted with that given by nature [67].

Whereas sociologists confine culture to what is in people's heads (essentially mental Verkehr, communication) marxists include what is over their heads and in their hands (means of production and subsistence), i.e. all the products of labour that surround them: from nails, bricks, paint and mortar to buildings, tractors, parks and fences. It encompasses not just the text of a book but also the paper on which it is printed, the type and the printing machine, the pulp mills and plantations, the inks and oxides, consequently also the metallurgical, chemical and extractive industries and so forth.

Sociologists and marxists define culture differently. But the difference is not merely semantic or a matter of definition, i.e. variance in subjective meanings attached to a word. "What counts" as culture has extremely important consequences for any study of society which takes culture as its independent variable.

INTRODUCTION

For marxists, culture extends well beyond human subjectivities. It inescapably involves reference to a vast range of "aspects" formally ruled out of sociology: politics, economics, geography, history, psychology, technology and industry. The most fundamental axiom of historical materialism is precisely that such human subjectivities cannot be explained without reference to these "aspects". On the other hand, by ruling them out of culture, sociologists overtly or covertly reify intrinsically human properties and social attributes. This reification has a twofold effect.

Firstly, whatever falls outside their "proper" domain must logically be treated as part of the natural background, as if "given by nature". As such, these externalities are taken to be given constants impervious to any intervention. For example, in the modern economy, tools and technology appear as capital; whoever owns them is a capitalist. Treating this fact as a constant and projecting it back in time, the ape which first knocked fruit from a tree with a stick was the original capitalist and all subsequent owners of tools have been capitalists. But as most historians know, capital and capitalists are comparatively recent actors on the stage of history; capitalism emerged,

developed, had its heyday, is declining and will most likely wither away - as have all previous forms of economy [68].

Secondly, defining culture exclusively as the realm of human subjectivity (consciousness) independent of other "aspects" means that the origins of consciousness as such become a mystery ("in the Beginning was the Word..."), and that it becomes impossible to explain changes in specific states of consciousness. Either people appear in the sociological imagination replete with a prefabricated consciousness (like instant soup ?) or consciousness results from an external power acting as a prime mover - an intervention along lines similar to Arthur C. Clarke's 2001 [69].

Assuming that consciousness came into being in one of these ways, then ideas evolve not only "by themselves", but also "out of themselves" and "for themselves" [70]. The sole function of the sociologist becomes one of registering changes in consciousness on the one hand, and changes in behaviour on the other, in order to explain the latter by the former. It is never the practical activity of people that shapes their consciousness; to the contrary, it is always their

consciousness that determines their practical activity. Turning Marx's metaphor on its head, it is not the steam-mill that produces the spirit of capitalism, but the spirit of capitalism that produces the steam-mill [71].

That academics are inclined to exaggerate the role of the ideal in history is to be expected. It conforms to a well-known human tendency to view events from the standpoint of one's own place in the division of labour. Many sociologists find the roots of the worst features of "actually existing socialism" in Marx's (or Lenin's) materialism. The notion that the agencies of moral exhortation and education are more potent factors than material interests and conditions in shaping the course of history is a defining trait of stalinism; "inculcating socialist culture" to create "socialist man" is a central preoccupation of "official communism" [72].

With respect to the role assigned to norms and values, there is little that distinguishes stalinists from, say, Durkheimian sociologists. Within the sociology departments, this shared idealism probably contributed to the movement of scholars into "marxism-leninism" in the 1950's and 1960's. That is only our

conjecture. What cannot be denied is that the same idealism prohibited many sociologists from any real understanding of Marx [74]. This applies in particular to those who eventually lost faith in marxism, or "discovered that marxism is a god that failed" [75].

The crisis of "actually existing socialism" emphatically proves the impotence - in the long run - of moral suasion, norms and values in the face of material interests which contradict them. Building a case against marxism on the basis of "actually existing socialisms" thus demonstrates paradoxically the superiority of the marxist conception of culture over that of the sociologists.

Evidence always requires interpretation. But interpreting the crisis of stalinism as a crisis for marxism involves a twisted somersault in logic. To equate the crisis of stalinism with a crisis of marxism requires that Marx was a stalinist, i.e. believed norms and values more potent than material conditions. That was also Durkheim's conviction. The theory that assigns primacy to norms and values is in crisis, and some sociologists attribute this theory indiscriminately to Marx, Durkheim and Stalin. But - and here comes the somersault - marxism but not

INTRODUCTION

Durkheimian sociology is held to be in crisis. If Marx was a stalinist, this charge is subjectivist and arbitrary. Here the sociological critics of marxism appear quite prepared to cut off their noses to spite their faces: to discredit their marxist rivals, they would present evidence that undercuts their own position. But -and here is the twist - as Marx was not a stalinist, the knife misses its target; the noses are sacrificed in vain.

If the foregoing account of sociology as a discipline appears preposterous and absurd to the reader, so too is much of sociology [76]. To be sure, applied to the discipline as a whole, it appears as an unfair caricature. But it does so only because in the real world of sociological practice, many sociologists do not practice what is preached. Rather than pursue a pure science of culture in the strict sociological sense, they surreptitiously reintroduce politics, geography, history etc. by the back door.

This illicit incorporation is absolutely essential in order to get political sociology, industrial sociology, urban sociology etc. off the ground in the first place. One simply cannot practice e.g. political sociology by referring only to political culture (in

the narrow sense of ideologies, values, etc.). Reference to political institutions like the state, the electoral system, parties, and so on is absolutely unavoidable.

Many sociologists will readily admit that they do in fact use real social institutions as "independent variables" in their explanations - and quite rightly so. Yet when marxists base their science on the social relations of production, the institutions of private property and profit, fluctuations of rates of profit and levels of class struggle, there is a sudden hue and cry about "economism", "positivism" and "empiricism" ... sins so venal that marxists must forthwith be excommunicated from the sociological fraternity.

Our reply to this final objection is twofold. In the first place, no one accuses e.g. Weberians of "politicism" when they focus on the state. Without further argument justifying politicism in sociology but not so-called economism, any attempt at the excommunication of marxism on these grounds is totally arbitrary. In the absence of such argument, one can only conclude that the whole movement against marxism in sociology signifies an attempt at intellectual repression, i.e. a direct attack on free inquiry [77].

If indeed such an attack is being mounted, no argument in defence of marxism will be persuasive. A case has been presented; if it is decided nevertheless that marxism fails to meet the standards required for sociology, then "so be it". Sociology and not marxism will be the loser.

In the short term, it will remain possible for sociologists to deny the centrality of "the economy" and economic problems in society even though the vast majority of people already recognise it [78]. Governments the world over are arguing that social issues and social problems should be shelved until deep economic problems have been solved. So long as sociological research is government-funded, the profession cannot fail to escape the impact of economic decline.

Again, sociologists have always claimed to have the welfare of society at heart and to possess specialised knowledge to assist its progress. If they wish to play any part in social policy formation or have any influence on social development at all, they will be compelled to confront the "economy" sooner or later.

It is pertinent here to draw attention to another irony of history. Like today's sociologists, yesterday's apostles of the social democracy also scorned marxism on account of its economic reductionism and determinism. Today however they brand marxists as "unrealistic": marxists, if you please, fail to appreciate that "economics" is decisive not only "in the last instance", but also in the first instance, and in every instance in between [79]. That social democrats should have abandoned their Keynesian principles for the most rabid monetarist austerity is a tragedy for the working class. But if tomorrow sociologists were to follow them in adapting to every possible alternative to marxism that would be a farce... except for those leftist sociologists who hitherto had not yet been "ruled out" of their discipline.

We predict - and here is a real test of the predictive power of marxism ! - that if the conservative ideologues manage to rid themselves of their marxist critics, it will not be long before social criticism as such will be banned as "subversive" [80]. In that event, sociology will revert to being a descriptive, not prescriptive activity. If critical

sociology is worth saving, reformists and revolutionaries need to unite in a common front to defend free inquiry and the intellectual autonomy of the university [81].

In dealing with the relationship between marxism and sociology in general, we have tried to show why there exist no good reasons for ruling marxism out of sociology. Implicitly a case has also been advanced that this particular thesis, which in our view is firmly rooted in the best classical marxist traditions, should be accepted for evaluation as a sociological thesis. That this latter case should be "implicit" only is not accidental. Its marxist, and therefore its sociological credentials, cannot be judged a priori. Whether or not the thesis succeeds or fails in this regard can obviously be established only on the basis of its content.

Aims, scope and limitations

What remains is to introduce the thesis itself: to situate it within a specific tradition, outline its aims, scope and limits, its format, method of approach and mode of presentation.

INTRODUCTION

The title of the thesis is "Where is New Zealand Going ?". It recalls the characteristic headings of the many conjunctural analyses of bolshevik theoreticians, in particular those of Leon Trotsky, our chief inspiration. In works such as "Where is Britain Going ?", "Whither France", "Where is America Going ?" and indeed The Revolution Betrayed (subtitled "What is the Soviet Union and Where is it Going ?"), Trotsky analysed the social, political and ideological trends in the given country, in order to arrive at tactics for conscious intervention [82].

That is also the intention of this thesis. But in some ways this historical reference is inappropriate for our study. As Ernest Mandel points out, Trotsky was one of the greatest innovators in the history of marxism [83]. By contrast, our innovations, if any, are limited to certain techniques in translating official statistical aggregates into marxist ones.

In his conjunctural studies, moreover, Trotsky focused mainly on developments in the superstructure, with economic developments as a backdrop. By contrast, this study concentrates on the developments in the economic base of society. Finally, Trotsky's analyses were indeed "conjunctural" in the sense that they dealt

with the current situation and addressed the problems of the day.

In its plodding empirical treatment, this study is closer to Lenin's The Development of Capitalism in Russia or Kautsky's The Agrarian Question [84]. That is not to say that Trotsky ignored economic conditions. The opposite is true: each of his analyses was premised on a profound grasp of the probable direction of future economic trends. In our opinion, this is the secret of Trotsky's undeniable talent for making successful predictions - and not, as his biographer Deutscher suggested, a propensity for "prophecy" (even if some of Trotsky's successful forecasts can only be regarded as prophetic) [85].

Without solid foundational studies - including those by other revolutionaries (Lenin, Bukharin, Varga, Preobrazhensky et. al.), and even academic economists (e.g. Kondratieff) - Trotsky would have been able to make neither his brilliant innovations nor his accurate predictions.

The present study is just a first step in a comprehensive research programme seeking to reclaim this tradition, and the capacity to analyse

superstructural trends and accurately predict the outcomes of on-going ideological, social and political struggles. One aim is to provide a rigorous account of the historical development of capitalist industry in New Zealand for the period 1923 to 1970.

Another aim is to test how "open" some fundamental marxist propositions are to the actual historical development of industry in New Zealand. On the basis of his discovery of the laws of motion of capitalist society, Marx made a number of key predictions about its trajectory - among others, a permanent revolution in labour productivity; a continual rise in the organic composition of capital; increasing concentration of capital and proletarianisation of the workforce; and an inexorable struggle between classes. If marxism is "open" then one ought to be able to assimilate the long-run tendencies hypothesized by Marx into a systematic empirical review of New Zealand's economic history [86].

Although this is an important consideration, the primary purpose of our test is <u>not</u> to show that marxism "measures up" against some abstract standard of scientific theorising. The point is that <u>strategies for socialism which are blind to certain key problems,</u>

or key developmental trends, will hinder, not facilitate, the transition to socialism. If it should turn out that marxist theory is defeated in the confrontation with the stubborn facts of experience, then it is an obstacle to the emancipation of the working class and should be thrown out.

That was Marx's own attitude to his theory [87]. Consequently Marxist's basic aim cannot be to defend Marx or marxist theory at any price, even if it is shown up as a barren, metaphysical ideology. It is rather to begin building a socialist society as quickly as possible. For orthodox marxists - marxists acting in the spirit of Marx - all intellectual and political activity is subordinate to this end.

Some self-styled marxists maintain on the one hand that Marx's laws of motion are the "fundamental tendencies" of capitalist development, but on the other that these "fundamental tendencies" are at all times offset by "counter-tendencies" - or even that the tendencies manifest themselves through the counter-tendencies. If on the face of it Marx's laws of motion contradict experience then, according to this fundamentalist argument, it is only because fundamental tendencies are not observable. Just as Kant

distinguished between phenomena and noumena, this "marxism" distinguishes between observable "appearances" and hidden "essences" which they mask. These essences remain forever hidden because by nature they cannot be observed [88].

Through this sophistry marxism is rendered permanently immune to falsification, i.e. infallible. This is dogmatism of the worst sort; the only evidence that can be found to verify the existence of the never-to-be-seen "real tendencies" are their pale ideal reflections in Marx's Capital, which comes to perform a function similar to the bible. "Cast-iron theory" might assist scholars in barricading themselves from reality. It is absolutely useless for the purpose of intervening effectively in the historical process, never mind redirecting its overall course.

Controlled and conscious intervention requires a scientific theory, which reveals the real nature of the historical process to consciousness. The capacity to redirect history is enhanced only if the science is progressive [89]. For this reason revolutionary marxists cannot do otherwise than to adopt a stance which is open to all data documenting real trends in historical development.

INTRODUCTION

For revolutionary marxists, new data always raise the question: "can it be consistently integrated into marxist theory, or is it evidence which contradicts that theory ?". Marxism remains *scientifically* progressive only so long as all new scientific data can be incorporated under Marx's long term laws of motion [89]. Marxism moreover remains *politically* progressive (in the sense of helping people to liberate themselves from the dictates of nature and to reduce the capacity of people to rule over others) only so long as it remains scientifically progressive. *It is within this framework that this study tests marxist theory*.

But the stick should not be bent too far the other way. Testing scientific propositions requires a self-critical, but not a light-headed attitude towards doctrine. Some marxists are much too willing to adapt the doctrine to fit the fad or fashion of the day.

Here there are two broad tendencies. One tendency always manages to discover the "real essence" of Marx's thought in the intellectual fashions of the moment - which oscillate broadly speaking between the poles of historicism (which stresses the centrality of agency or *praxis* as definitive feature of humankind) and

structuralism (which portrays people as merely the "bearers" of structures, i.e. the hapless victims of their circumstances). In the former case, men make their history voluntarily; in the latter case such voluntarism is an illusion and "history makes the man volunteer". Each seizes on one half of Marx's famous formula that "people make their own history, but not under conditions of their own choosing". But for this reason each can appeal to Marx's writings for doctrinal support. For the structuralists, there is the critique of Hegel and the Left Hegelians; for the humanists, there are the Paris Manuscripts, and so on [90].

Modern examples abound in so-called Western Marxism. Not so very long ago, Althusser - reacting against humanist ideology - found Marx to be an even more rigorous structuralist than Levi-Strauss; this provoked a humanist backlash from Thompson, Lefebvre and others. But this controversy in fact dates back to the beginning of the socialist labour movement, i.e. precedes marxism by many years. Marx himself criticized voluntarists in the Communist League (see Appendix I) ; Rosa Luxemburg polemicised against fatalists in the German social democracy, while Lenin ridiculed voluntarism (in both its Narodnik-populist and "infantile communist" guises) as well as fatalism

("defenders of economism") [91].

The attempt to prove that Marx was the best exponent of whatever happens to be the dominant paradigm in social science is one form of "light-headedness." Another tendency is to regard marxism as falsified at the drop of a hat. Thus whenever theoretical intuitions seem at odds with "common sense" experience, the doctrine has to take a bow. As noted, dogmatic fundamentalists cling to essences which are non-observable entities. Their naive falsificationist bedfellows do not see anything "essential" behind that which is directly given in experience. As Marx's laws of motion appear to be confirmed neither in their experience nor in official statistics, something must be wrong with the theory. The theory then must be revised accordingly [92].

Some, like Bernstein, eventually draw the conclusion that marxism <u>in toto</u> is beyond redemption. Others draw a subtle distinction between Marx's untenable <u>doctrine</u> and his superior <u>method</u>, which somehow survives the stern test of history unscathed. Marx, so the argument goes, had the right method, but just could not apply it properly for one or another reason. For example, Marx is presented as a "victim of

his time", blinded to the existence of structures of oppression more deepseated than class society: patriarchy, racial domination, or even human nature itself. Thus the grandiose edifice of Capital collapses under the weight of experience. Yet its foundation - Marx's method - remains intact even if buried under the rubble. The task then becomes one of clearing away the rubble in order to erect a new science on the old foundation [93].

The notion that Marx can and should be saved from himself in this way contains a kernel of truth. Marx insisted time and again that there exist no "royal roads to science" nor "master-keys to history". What does this signify if not precisely the denial of a single Scientific Method ?. Marx's so-called dialectical method, which he once intended to set out on "a few printer's sheets" amounts in our opinion to little more than the consistent application in social science of the insight that reality is transient, i.e. that everything emerges, develops, has its heyday, declines and disappears according to its internal contradictions. But this insight itself is by no means a discovery of Marx or Hegel; we can find it already in ancient Greek, Arabic and Chinese philosophy.

INTRODUCTION

The quest for a set of scientific procedures which, if followed conscientiously, would guarantee the discovery of Truth, the Whole Truth and Nothing But The Truth is a metaphysical project. As such, it is just as vain as the search for the philosopher's stone or the Holy Grail.

Having emptied Marxism of its doctrinal "rubble", all that remains is the myriad of research strategies, conventions and rules-of-thumb used by all bona fide scientists. What the "method-marxists" in effect assert - be it in a very complicated way - is that one should be a scientist but not a marxist. Wherein, then, lies the attraction of Marx ? It is clearly not the patient, painstaking and often hum-drum collation and assimilation of empirical data. But if there was nothing unique in his approach to scientific inquiry, Marx's way of presenting his results - his "Hegelian coquetry", wry humour, propensity for satirical asides, etc. - was certainly "uniquely Marx". We suspect it is the grammar, wit and style of a high-powered German intellect that forms the attraction.

Testing scientific hypotheses is an exacting, painstaking job. Data has to be collected, sifted, sorted and prepared so that theoretical categories are

approximated as closely as possible. Then, and only then, can theoretical propositions be correctly tested against real trends.

Taking appearances at face value and adjusting theory to suit the occasion (an excessively "open" stance) is just as debilitating for science as disregard for empirical data on the ground that it reports only "superficial" phenomena (an excessively "closed" stance). Both stratagems signify an incapacity to come to grips with marxism and the empirical material.

The spirit in which we conducted our research is captured in Trotsky's remark cited at the beginning of this introduction. Unlike dogmatic fundamentalists, we test our "working theory" so we can be sure of our "revolutionary devotion" and verify that it is "rational and possible". But unlike light-headed sceptics (Mr Macdonald and his ilk) we take a serious, i.e. systematic and rigorous approach to testing our theory. In our case, the process of preparing the raw material provided by official statisticians has necessitated an additional volume of methodological appendices.

INTRODUCTION

Our central research problem can be summarised as follows. Marx's analysis suggested that the socialist revolution would triumph in the advanced capitalist countries, where the working class was most developed. But if the revolution does not triumph there, and if on top of that capitalism experiences a new "long boom", then people are forced to look for explanations. Most of the currents in the workers' movement, in New Zealand as in Western Europe and the USA, marxist or non-marxist alike, have sought to explain both events in ways which run counter to those proposed by Marx and Engels. Whereas the latter directed us to the economic base of society, the mentioned currents looked for an explanation in the superstructure (changes in political alignments and consciousness, ideology, norms and values, state intervention, etc.). Can the survival of capitalism and its new lease of life be explained in a strictly orthodox marxist way ? If so, why did the workers' movement look for non-marxist explanations of the historical turn of events ?

The first question can be answered directly answered through an economic analysis using Marx's labour theory of value. To answer the second question, we refer to Trotsky's letter on The curve of capitalist development [94].

Trotsky there recalls Engels's methodological discussion in an introduction to Marx's The Class Struggles in France [95]. Engels pointed out that it is actually impossible to trace the final economic causes of events as they happen day by day. There are a number of reasons for this: the volume and complexity of the information to be digested; statistical information always lags behind events; often the most important factors operating in the real life situation remain hidden from view, and so on.

But even in making an historical analysis it is necessary to start somewhere. As Engels put it, it is necessary to abstract from a whole series of phenomena, which means disregarding all sorts of factor or treating them as constants at least in the beginning. Marxists begin their analyses by tracing political conflicts back to the struggle between classes, and inside classes, which arise from the contradictions of economic development. They show how political parties are the more or less adequate expression of class interests.

As long as the political situation remains stable, it usually suffices to interpret political events in

terms of general categories like "the interests of the bourgeoisie", "imperialism", "fascism", etc. But where a sudden major change in the situation occurs, when there is a sharp turn in events, such explanations become insufficient, or even empty truisms. When this happens people start looking for better explanations.

At no time has this been more evident in New Zealand than today. The Fourth Labour Government has reassessed its philosophical roots and found them wanting. The general categories like "equality of opportunity", "social security", and "the welfare state" give way to "equity", "the user pays" and "the corporation". Whereas previously the economy was conceived as a means to satisfy social needs, now social needs (e.g. independent, nationwide trade unions) are sacrificed for economic goals.

Beneath this radical change in the mental structure of the polity lies a still more radical restructuration of the economy. The trade union bureaucracy clings to the old concepts and slogans. While the social democrats try their hand at "withering away" the state (deregulation, privatisation and corporatisation of state enterprises), FOL Secretary and Socialist Unity Party chairman Ken Douglas

announces that "the programme of deregulation and state service reorganisation is nothing more than the consolidation of state monopoly capitalism; the merging of the interests of monopoly and the state into a single entity with its own specific interests" [95]. Now that the crisis is upon us, the university marxists who told us that it was our socialist duty to support the Labour Party echo Ramsay Macdonald; we are called on to be sceptical of socialist theory: the need of the moment is socialist "devotion", not socialist theory.

At such decisive historical turning-points, it is necessary to trace the economic roots of new political, ideological, associational and other trends; and to establish, if possible, the quantitative relations between them.

How does one begin ? Trotsky's answer was that capitalism lives by crises and booms, just as human beings live by inhaling and exhaling. In the first instance, conjunctural economic fluctuations (trade cycle) need to be mapped out. But that will not explain everything. Homogeneous cycles need to be linked together in series; long waves of growth or stagnation. This provides a picture of the character of the epoch as a whole, which may be one of overall

decline or growth.

Once the basic curve of economic development has been identified, and its secondary phases and breaking points established, then a picture of developments in the superstructure can be built up: i.e. philosophical schools of thought, politics, ideology , wars, and so on.

There is, Trotsky noted, an obvious danger in this approach. It is not difficult to slip into vulgar schematism and economic reductionism, and ignore the mediation of extra-economic processes. This would deny the marxist premise "economics" is decisive in the final analysis. To explain changes and variations in the superstructure, much more analysis is required than just economic analysis. Nevertheless, taking economic relations as the point of departure is the essence of the marxist approach: one always looks for the root causes of superstructural changes in the economic base, and nowhere else.

In following Trotsky's advice, this study therefore offers more than just a test for Marx's economics. It provides a proper foundation for analyses of superstructural trends and developments in

future research.

As regards the format of this dissertation we can be brief. The historical origins of revolutionary marxism receives special attention in Appendix I (pp. 584-609 in this volume). Mechanical operations involved in preparing the data set are detailed step-by-step in a second volume, together with the necessary technical commentary. Volume 2 is prefaced by a special introduction, and as such self-explanatory. Most values for graphs and tables included in this volume are taken from Volume 2; the system of cross-referencing is detailed there. To aid the reader, notes and references are presented in a third volume. In the tradition of Marx's Capital, many notes are illustrative; in addition to obligatory documentation of sources, an attempt has also been made to alert the reader to background literature we consider particularly insightful. It is impossible to discuss and fully assimilate all the literature cited. In this sense, the study is open-ended, inviting criticism. While every scientific opinion is welcome, the right is reserved to disregard vulgar prejudice.

CHAPTER ONE

THE CURVE OF CAPITALIST DEVELOPMENT IN NEW ZEALAND

This chapter is a first attempt to execute the project Trotsky mapped out in "The Curve of Capitalist Development". In dealing with objections to marxism, two problems were left unresolved. The first concerns the pattern of determination: are "norms, values and ideologies" the independent causal agents in history (Durkheim), are they independent elements within a set of causal agents (Weber), or are they in the final analysis results of "subterranean impulses which economics transmits" to the superstructure (Trotsky) ? The second concerns the viability of the laws of motion Marx thought to operate in capitalism: can they be sustained in the light of the "hard" evidence relating to New Zealand's historical development ?

Trotsky's approach is particularly helpful as a means towards answering both questions. First, it offers clear and precise instructions for operationalising the central marxist proposition concerning the relationship between the societal base and superstructure. It is free from the obscurantist formulae many so-called marxists use to qualify their

commitment "in theory" to the determination of the superstructure of society by its economic base.

Secondly, once the curve of capitalist development has been tracked, the question is posed: "why does the curve takes the shape that it does ?". In our view, economic theorising reduces, in the last analysis, to attempting to answer this question. Identifying the curve of New Zealand's economic history will give our subsequent discussion of economic theory an objective focal point.

To return to Trotsky's discussion:

> At the risk of incurring the theoretical ire [Trotsky states] of opponents of "economism" (and partly with the intention of provoking their indignation) we present here a schematic chart which depicts arbitrarily a curve of capitalist development for the period of ninety years along the above mentioned lines. The general direction of the basic curve is determined by the character of the partial conjunctural curves of which it is composed.
>
> In our schema three periods are sharply demarcated; twenty years of very gradual capitalist development (segment A-B); forty years of energetic upswing (segment B-C); and thirty years of protracted crisis and decline (segment C-D). If we introduce into this diagram the important historical events for the corresponding period, then the pictorial juxtaposition of the major political events with the variations of the curve is alone sufficient to provide the idea of the invaluable starting points for historical materialist investigations. [1]

Trotsky's "schematic chart" only intends to illustrate general principles. The "curve fixed" in the economic foundation is not based on any real historical development; the events in the superstructure are likewise purely hypothetical. To justify his "purely arbitrary pictorial schema", Trotsky points out that to "take an actual period in history as a basis" presupposes "a complex and painstaking investigation which has yet to be made" [2].

Such an investigation becomes less complex if broken down into logical steps. The first step is "fixing" the curve. Here Trotsky notes that even just the method is "a special question in itself and by no means a simple one ... pertaining to the field of economic-statistical technique". The curve having been fixed, the next step is to "break it down into periods, depending upon the angle of rise and decline in reference to an axis on a graph". The schema can then be "synchronised": economic trends are related to superstructural trends (politics, ideology and so on). The method of synchronisation is to look for "interrelationship between definitely delineated epochs of social life and the sharply expressed segments of the curve of capitalist development - but also for

those direct subterranean impulses which unleash events" [3].

To replicate the schema in actual historical development, the riddle of how to fix the curve must first be solved. The immediate problem here is to find an adequate measure to gauge capitalist development. Trotsky fixes his curve according to the rate of economic expansion. But how can this expansion be measured ?

Plotting a single line like Trotsky's curve presupposes some means by which economic performance of a country can be summarised in a single measure year by year. Faced with this problem, economists developed the concept of the "level of economic activity". Modern national accounting systems were developed primarily to measure economic activity [4]. "Economic activity " measures development as the capacity to generate income. Economies "expand" when income grows and "decline" when income falls. This notion - rating the "economic engine" by its output - is much more simple than the marxist idea. For Marx, economies should be rated in terms of their ability to develop and deploy all resources available to society.

CHAPTER ONE

Official statistics do not report marxist categories. Fixing the curve of development in a marxist fashion hence requires reworking official data to bring them into line with marxist categories. Data for New Zealand manufacturing have been reworked in this way (see Volume 2) and the resulting curve is shown in chapter 6. But manufacturing data are more amenable to "translation to marxism" than data in the National Accounts. Here, where the curve needs to be fixed for the whole economy, only conventional economic standards and indicators are used.

Categories of national accounting

National accounting systems are designed to measure the overall value of production in the nation's economy. The total value of product cannot, however, be equated simply with a level of economic activity. The final value of goods and services produced includes both new and preserved value: the value of goods from a factory includes the value of raw materials (and so forth) used up in production. If the distinction between newly created and preserved value is ignored, one absurd outcome is that any increase in imported raw material costs automatically appears as an increase in national economic activity [5].

CHAPTER ONE

The convention economists have adopted to overcome this problem is to infer the level of economic activity from the volume of "national income". In general terms, national income refers to the total of gross (pre-tax) incomes received by residents of the nation which arise in the process of producing the current output of goods and services. At the same time, only those incomes arising from goods and services produced for sale in the market are included in the concept. Thus, for example, services performed by unpaid housekeepers and goods produced at home for domestic use are excluded [6].

"Capital receipts" (e.g., from deceased estates, repayment of debt, etc.) are excluded from national income as they do not arise in the current round of production. "Non-productive" incomes (so-called transfer incomes, including social security benefits, pensions and interest paid on public debts) are excluded on the same grounds. The term "transfer" relies on a distinction between incomes which are "earned" (i.e. arise through direct involvement in current output) from those which are "unearned". Transferred income appears merely through a temporal or spatial shift in resources. It is payment either from

tax funds collected in the past (transferred from a previous cycle of production to the present) or from current taxation (part of the gross "earnings" of some economic actors is transferred to others).[7]

Since standard National Accounts were first prepared in New Zealand (in 1947-48), four basic national income measures have been used: National Income at Factor Cost (NIFC); National Income at Market Prices (NIMP); Gross National Product (GNP); and Gross Domestic Product (GDP). They were evolved by economists to bring the generic notion of "national income" closer to their concept of economic activity [8]. All are referred to as "principal national income aggregates", because they aggregate major economic flows.

Although each aggregate combines major flows somewhat differently, they are all interrelated, as follows: NIMP = NIFC + (Indirect Tax -Subsidies); GNP = NIMP + (Depreciation Allowances); GDP = GNP + income generated in New Zealand but accruing to overseas residents (including wages, interest, profits etc.). A brief history of national accounting in New Zealand, together with details of how the foundational aggregate NIFC is estimated, is given in Volume 2.

CHAPTER ONE

By linking estimates from authoritative unofficial sources to official data, continuous series of annual national income data are obtained as follows: NIFC and NIMP from 1926 to 1983; GNP from 1938 to 1976; GDP from 1948 to 1983.

Despite successive "refinements" to the "factor cost" aggregate, none of the resulting amalgams can be considered an adequate index of the level of economic activity. This fact is acknowledged by the bourgeois economists who invented and developed them. But for these economists, the inadequacies stem chiefly from deficiencies in the data sources used to prepare National Accounts.

In this vein, Easton argues that National Accounts under-report incomes received as fringe benefits, payments in kind, capital gains, interest, investment societies, profits from life assurance, etc. [9]. The reason is that - until recently - the primary data source was income tax assessments. Income received from sources other than wage and salary payments is open to tax evasion or tax avoidance, and will hence be under-estimated in the official accounts.

CHAPTER ONE

Marxist criticisms of bourgeois national accounting concepts

Such objections from bourgeois commentators aside, there are more deep-seated problems in national income aggregates. From a marxist standpoint, the distinction drawn between new and preserved incomes remains capricious. All aggregates include an "imputed rental value" for owner-occupied houses. This fictitious entry represents either an income that would accrue if the owner let the property, or a cost that would be incurred if the owner had to rent it. The inclusion of imputed rent is arbitrary; no figures are imputed for the "rental value" of private cars (which could be leased), washing machines (which could be laundries), kitchens (which might be restaurants) or any number of other assets that "could" generate income. Sometimes inconsistencies of this nature are acknowledged, but justified on the grounds that it is not technically possible "at the present time" to assess omitted items [10].

The official distinction made between productive and non-productive income is not only arbitrary and misleading; it is counter-productive if the aim is indeed to estimate real economic activity. For

example, if the unemployment rate rises, the rate of social workers, Labour Department officials, and, more often than not, police and justice officers, etc., in the population will also rise to combat the social consequences of unemployment [11]. The remarkable result is that unemployment "benefits" paid to the jobless count as "non-productive" income while wages and salaries paid to new state employees count as "productive" income. Both incomes arise from a fall in economic activity; yet in national income data the extent of this fall is paradoxically counter-acted to some extent by the increase in state wages.

Such accounting procedures enable real declines in economic activity to disappear altogether from the national accounts simply by assigning the unemployed to the repressive state apparatus. Although not necessarily intended to mask economic decline, this is in effect what transpired during the Second World War and national income data for this period must be adjusted accordingly (see below).

For marxists, the official distinction between direct and transferred incomes is also arbitrary. Capital invested from savings from the output of past cycles of production, is considered to generate direct

income, i.e. "earned income". The income is said to be earned because it "rewards a factor of production, i.e., is paid in exchange for supplying the investment. At the same time, social security benefits are "unearned", i.e. treated as a transfer of part of the income of direct earners. This approach ignores the fact that the social security fund likewise incorporates savings from the output of past cycles of production.

Up to the late 1930's, the state gained most of its revenue from the Land Tax and from customs and excise duties. Income tax then comprised less than 20% of the total tax take while the average wage was free from income tax. By 1983, average wages attracted a tax rate in excess of 30% and income tax comprised around 75% of all tax. While income tax as a share of all tax rose, the share of income tax paid by companies fell. The share of national income paid as tax to the central government rose from around 22% in 1935 to almost 34% in 1983 [12] .

The category of "gross income" is a peculiar one. It includes all income received plus income which, although earnt, is not received (tax-deducted). For working people in New Zealand, an excess of earnt over

received income first appeared in 1930-31, when the Unemployment Fund was established. This Fund and its successor, the Social Security Fund, were constituted by compulsory savings on current income by ordinary working people "foregoing consumption". The savings enter back into current production as finance capital for the production of state-provided goods and services, farming and export subsidies, etc. [13].

In terms of economic function there is no difference between the fund of savings made through "private initiative and free enterprise" and enforced public savings made through taxation. Thus, if profit rewards factors of production then the payment of social security benefits is just the distribution of rewards arising from the economic role played by the social security fund.

In terms of the categories and concepts of the National Accounts, the only ground for treating private profit as "earned" but benefits as "unearned" income can be that private savings, but not public savings, are "destined for sale in the market": "need", not markets, distribute profits arising from public savings. But if that is the basis for the distinction, the bulk of Government wage payments ought likewise to

be excluded from the accounts. After all, they too are incomes arising from the output of goods and services not destined for sale in the market [14].

The distinction bourgeois economists draw between newly created and preserved income is ideological in Marx's sense of the term. In preparing the National Accounts, workers and capitalists are treated differently. All gross wages and salaries of employees count as income. But for employers, and others who live by profits, only the sum left after all "costs" have been met counts as income. The impression is created that workers encounter no overhead expenses in acquiring their incomes, which is simply not true [15]. This accounting "technique" must be accorded its due importance when official national income data are used to determine the allocation of national income to the different classes over time.

Methodological issues in "fixing the curve" using bourgeois data

In view of the above, it is impossible to equate the reported level of the national income with the level of economic activity. The sole virtue of national income aggregates for our purposes is that

they have been collated in similar ways over relatively long periods. This means that the inadequacies tend to be reproduced consistently over time, so that the aggregates can, after all, be used as indicators of the general course of development. To affirm that GNP figures can be made to indicate, in a very general way, the trajectory of capitalist development obviously does not commit us to the view that the absolute values given in GNP reflect the real level of economic activity in the country.

Having opted for national income aggregates to fix the curve of capitalist development, the next task is to select the most appropriate aggregate for our purposes. NIMP is in fact a better measure than NIFC, as "Subsidies" are included in latter but excluded from the former. In general, the inclusion of subsidies has a counter-cyclical effect on the data, i.e., obscures the degree of fluctuation in economic activity. The function of a subsidy is precisely to stimulate the economy "artificially" in the face of a downturn - either to expand output or to maintain existing output.

NIMP is also preferable to GNP. GNP equals NIMP plus the exemption from taxation allowed as compensation for the depreciation of assets (the

depreciation concession is discussed in more detail in Volume 2, pp 118-123). Again, including depreciation allowances to some extent masks real economic trends. It is calculated as a fixed ratio of asset value; the ratio varies according to type (e.g., buildings or machinery) and age of assets. Assets can be written off against tax less and less as they age. The concession has been increased several times to stimulate investment in new equipment during downturns. This being the function of the concession, its inclusion actually reduces the actual extent of downturns (cf. the years 1943-47, 1963-66 and 1973-75 in Graph 1:7 for the quantitative effect).

GDP equals GNP plus income which, while generated in current output in New Zealand, accrues to non-residents. Because the latter income arises from "domestic" economic activity, any index of New Zealand's economic activity should include it. But GDP includes the depreciation allowance, which NIMP excludes. This creates a technical problem. Where the components from which the principal aggregates are calculated are separately identified, depreciation allowances can be subtracted from total GDP. However, available statistical sources permit this operation only for the period 1938-1976.

The advantage of GDP is that it includes income generated by domestic activity but accruing to overseas residents. For our purposes, however, both quality and quantity are important considerations. The scope of available data is a decisive factor. Whereas NIMP estimates are available for the period from 1926 to 1983, GDP estimates are available only for the period from 1948 to 1983. If the depreciation allowance were to be deducted, the GDP series can cover only the period 1948-76. Using GDP rather than NIMP as medium to gauge the curve of capitalist development would cut in half the period of economic history surveyed, from 58 to 29 years. Hence, all things considered, NIMP is the best measure available for our purposes in official statistics.

The next task is to ensure that NIMP values are as free as possible from "extraneous influences". NIMP is reported as an annual sum of money (in New Zealand pounds to 1967 and dollars from 1967, 1 pound = 2 dollars). But paper currency is notoriously unstable; in some periods it deflates and in others it inflates. Other things being equal, if the value of money falls, income will rise to cover the fall. Thus, a 10% annual inflation rate appears in the National Accounts as a

10% increase in the NIMP figure.

Any influence which changes in the value of the currency might have on the data must be removed, before changes in economic activity can be legitimately inferred from the series. Otherwise a 10% increase in the level of NIMP reads as a 10% increase in the level of economic activity even if the level of economic activity remained constant, and the "increase" of NIMP is attributable purely to inflation.

Graph 1:1 shows changes in currency values as measured by consumer prices. The graph plots the Consumer Price Index (December 1977 = 1000) over the period for which we have NIMP estimates. A consumer good which cost, say, $300 in 1960 would have cost only $139 in 1926 but $2032 by 1983. The graph shows that changes in consumer prices has been uneven. Two main trends can be observed. From around 1950, price inflation has been permanent; from around 1970 it runs rampant.

The effects of currency instability must be excluded from the data. Each total in the series must be expressed in the value of the currency for a single year. Technical problems posed by inflation as well as

the conventions adopted to deal with them are discussed in Volume 2. Statisticians use the term "nominal" to indicate monetary values not adjusted for price changes. Throughout this study, 1984 is used as the base year i.e. series of values are expressed in constant 1984 dollars. Non-adjusted figures are indicated as nominal dollars.

The task of fixing and establishing the breaking points in the curve of capitalist development from NIMP data can now be attempted. Graph 1:2 shows our first cut. Insofar as NIMP measures economic activity, the solid line traces the trajectory of New Zealand's economic development for the period 1926 to 1983. The dotted line reveals the uneven nature and breaking points of the trajectory. It shows a "constant growth curve" between the first interval and the highest value in the series (this value is relocated to the last interval). The starting point is the NIMP value for 1926. The end point of the curve is the highest NIMP value in the series. All values in between are found by "growing" the first to the last figure at a constant rate. Further technical details are given in Volume 2.*

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* Most values for graphs in this volume are tabulated in Volume 2. To assist cross-referencing, source tables are indicated below each graph. The page location for the table in question can be determined from the List of Tables, immediately following the Contents List of Volume 2.

Two trends are immediately obvious in Graph 1:2. First is the overall expansion: from a little over 5 billion dollars in 1926 to almost 33 billion by 1983. At the same time this expansion has been quite uneven. As in Trotsky's curve three distinct economic epochs can be identified. These are identified by the relation between the two lines. The solid line dips beneath the dotted line for most of the period 1926 to 1942, indicating around twenty years of below average "intensity of development" (to use Trotsky's term). From 1943, the line stays mostly above the dots, up to 1982 - when it dips below again. Where the solid line stays above the dots, above average intensity of development is usually indicated.

But comparing these two lines to identify distinct periods according to their economic character misrepresents real development. To a large degree this is a function of the way average intensity has been determined. As Trotsky points out, real trends are given in the acuteness of angles from the bottom axis. If the points 1973 and 1983 in the NIMP "curve" were connected by a straight line, a line almost parallel with that of the bottom axis would result. On the other hand, if the dotted line was plotted to represent a

cumulative average increase for the period 1926 to 1973 only, the epoch of more intense development will be reduced.

Graph 1:3 more accurately reveals the three distinct economic epochs in the NIMP curve. Here the dots track annual NIMP values; the solid line is the principal trend line linking, in three separate constant growth series, the values tentatively identified as breaking points in Graph 1:2 (1942 and 1973). Average NIMP growth rates are as follows: Period A (1926-42): 2.83%; Period B (1943-1973): 4.38%; Period C (from 1974): 0.48%. Our data are incomplete for Periods A and B. For this reason, percentages calculated for A and B might be inexact. If growth in the years immediately preceding 1926 averaged less than 2.83%, our figure will obviously be too high (and vice versa).

If the economic character and content of an epoch is given by its distinctive rate of expansion, the nature of the different periods in NIMP can be determined by comparing the average rate for the period with the average rate for the series (the average of A, B and C), 2.91%. Because the rate in Period A (2.83%, which could be too high) is below 2.91%, capitalism

developed sluggishly during this period. The 4.38% rate in Period B exceeds the average by more than 50%, from which one can infer that capitalist development flowers during this period. Up to 1983, the rate in Period C, 0.48%, is less than one-sixth of the average rate; the conclusion must be that capitalist development at this time is in crisis.

Graph 1:4 enhances the visibility of the economic character of the different epochs. The annual rate of growth (in percentage terms) has been calculated, added on year by year and plotted in the dotted line. Any interval in this line equals the sum of negative and positive development to the relevant point in time. The solid line plots the increment of the average rates through each period. The result is that breaking points are connected by straight lines. The contrast between the epochs is now clearly visible in the different angles between these lines and the bottom axis: the more oblique the angle, the more intense the development.

Graphs 1:2 to 1:4 demonstrate that long-term growth occurs through sudden leaps and falls. It is not at all a question of smooth, progressive evolution. Bursts of heightened activity are followed by relative

inactivity. If the overall trend has been one of expansion, this is only because, on balance, rises outweigh falls. For all that, there are two reasons why the graphs still underestimate the magnitude of fluctuations in the curve.

Firstly, as noted earlier, the "imputed rental value of owner-occupied houses" entry to NIMP exerts a definite "counter-cyclical" influence on trends in the curve. Previously it was suggested that the entry would be largely unaffected by changes in economic activity. This hypothesis is confirmed by the data; all components to GNP except "imputed rental values" and depreciation allowances decline in some years (see Table 2:1). That is, of the twelve components of GNP, these two are the only ones that grow every year in the series.

The counter-cyclical influence exerted by these two items could be eliminated if their values could be subtracted from the principal aggregate. Unfortunately values for the items are available to us only for the period from 1938 to 1976. Graph 1:5 exposes the moderating influence introduced into the curve when imputed rental and depreciation allowance values are included. The solid line fixes the curve from official

GNP estimates. The divergence between the line and the dots indicates the combined value of the items excluded.

The two curves have the same basic shape; some gradual separation of the lines is to be expected as quantities increase. But there are also significant discrepancies. The oscillation is slightly more pronounced in the dots than in the line. This is visible in the tendency for the two to converge in upturns and diverge in downturns. Downturns in the mid-1940's, early 1950's, mid-1960's and mid-1970's can also be observed much more easily in the line than in the dots.

The second reason why Graphs 1:2 to 1:4 underestimate oscillations lies in a technical-visual problem associated with all graphs of this type. The value range (the difference in size between the lowest and highest values) relative to the degree of oscillation compresses fluctuation in the data. This effect can be countered by isolating and plotting the rate of growth by itself. The rate of growth is determined as follows: (a) the absolute increase for each year is established by subtracting the total from the previous year, and (b) this increase is calculated

as a percentage fraction of the preceding year's total.

Graph 1:6 shows annual percentage growth rates for NIMP and NIFC. Upswings are clearly separated from the downturns in economic activity. The short cycles Trotsky referred to are now quite obvious. The graph gives substance to our formula that capitalist development equals the balance of rises over the falls rather than a smooth evolution. Once the technical-visual effect is eliminated, the oscillation is rather less marked from 1951, in contrast to the impression created by Graphs 1:2 to 1:4 where oscillation appeared to increase over time.

NIFC and NIMP values produce lines that are almost identical in shape although, in general, NIMP oscillates slightly more than NIFC. NIMP equals NIFC plus indirect taxation less subsidies. Hence the values for these components combined must alter more dramatically than NIFC. The lines head in opposite directions only during the years 1975-77. In 1975 and 1976, this divergence results mainly from a sharp increase in indirect taxation (see Volume 2, p 46).

But even at this stage in the analysis, the real degree of oscillation is still underestimated, as the

imputed rental values of owner-occupied houses is included. This entry is excluded in Graph 1:7. For most years, the oscillation is greater once these values are removed. But more significant is the appearance of a margin of at least 5% between the two lines for the years 1944-46, at the end of the Second World War. A closer examination of the data now reveals that, from the standpoint of national economic activity, "New Zealand's war effort" has misleading consequences in the National Accounts.

Two components of NIMP - Pay and Allowances of the Armed Forces and "Lump Sum Payments from the United Kingdom Government" - rise dramatically in the war years. As a result these items exert a much greater influence in the 10 years 1938-47 than they do in any other years, for which they are reported. The combined weight of these items in total NIMP is shown in the following figure:

YEAR	A	B	TOTAL A + B	NIMP	RATIO TOTAL NIMP
	Millions		Nominal	Dollars	
1938	2	0	2	430	0.5%
1939	6	6	12	460	2.6%
1940	31	6	37	500	7.4%
1941	51	6	57	544	10.5%
1942	92	6	98	632	15.5%
1943	117	6	123	709	17.3%
1944	84	6	90	717	12.6%
1945	83	10	93	755	12.3%
1946	83	10	93	799	11.6%
1947	13	10	23	906	2.1%
1948	9	0	9	914	1.0%

A = Pay & Allowances Armed Forces
B = Lump Sum Payments from the United Kingdom Government

Strictly speaking, neither item can be included in the principal aggregates on National Accounts criteria: neither income represents a direct reward to a factor of production. They were not "earned" through active participation in the nations' economy (most members of the armed forces were not residents of the nation in the war period). Neither income moreover arose in current output of goods and services produced for sale in markets.

Pay and Allowances of Armed Forces as well as Lump Sum Payments are conceptually disqualified on each of these four criteria. They must be excluded from NIMP both for the sake of consistency over time and to obtain a valid measure of national economic activity.

Graph 1:7 compares the growth rate of NIMP before (dots) and after (line) adjustment for the extraneous influence of the war effort. Once the relevant items are deleted, the economic character of the period 1938 to 1947 alters dramatically. A new recession now appears in 1940, while the severity of the downturn in 1944 is reduced. As well, the upturn in 1942 is reduced by around 7% and the peak of the boom in 1948 is pushed up by around 12%.

In the light of these adjustments, the curve and tentative periodisation of development arrived at previously is no longer satisfactory. Graph 1:7 suggests that the years 1938 or 1951 are more likely candidates for the breaking point between Period A (sluggish growth) and Period B (more intense development) than is 1942.

To determine the breaking point between A and B more precisely, we refer to Graph 1:8. The solid line reports official NIMP figures. The dots report NIMP after deduction of Lump Sum Payments and Pay and Allowances of the Armed Forces for the years 1938-1947. The dashed line plots the constant growth curve used previously in Graph 1:2. The region between the dots and the solid line is the degree to which NIMP figures need to be reduced to keep the data consistent for the whole series.

As noted, the economic character of an epoch derives from its distinctive level of economic activity. Hence different levels in economic activity are used to demarcate between epochs. In this graph, if the solid or dotted line falls below the dashed line (i.e. the constant growth curve), economic development is depressed. If we accordingly compare the tracks of

the dotted line with those of the dashed line, it is obvious that real economic development remained depressed up to 1946, even though official statistics suggest 1942 as the end of this depression.

Graph 1:7 creates the impression that the breaking point between A and B is either 1938 or 1951. But in Graph 1:8 all the years 1938-46 fall below the constant growth curve and consequently belong to the period of depression. Conversely, the dotted line rises above the constant growth curve in 1947 and remains above it for the years 1947-51; these years belong to the period of more intense development. Graph 1:8 quite clearly establishes 1946 as the breaking point between Periods A and B.

One quantitative effect of this shift is that the average growth rate in periods A and B is lifted slightly. The periodisation and rates of expansion now read as follows: Period A: 1926-46 2.991%; Period B: 1946-73, 4.5545%; Period C: 1973-83, 0.4766%. The economic character of the different epochs is preserved: the rate of growth in A is around 66% of that in B; development in A, relative to B, is sluggish. As the growth rate in C is only 10% of the prevailing rate in B, development in C is in crisis.

Given that the average growth rate for the entire series is 2.91%, it may seem perverse to describe the 2.991% rate during Period A as sluggish. To repeat, these estimates need to be treated with caution. The relations between the different periods in the graphs depend on calculations of average growth rates. The series date from 1926 only because NIMP estimates before that time are not available. The starting point for Period A may well be earlier than 1926. In that case, the average growth rate calculated for this period may in fact be too high or too low depending on economic activity in the preceding few years.

John Bell Condliffe, indisputably the doyen of economic historians in New Zealand, dated the post-World War I depression as 1921-1935 [16]. This periodisation implies that economic conditions in 1921-26 were more depressed than those in 1936-46. The average growth rate for the 1926-35 period was 2.36%. If this figure is projected backwards for 1921-25, the average growth rate for Period A (1921-1946) is reduced to 2.87%, from where it again falls below the average for the entire series.

In addition to this problem, the series is too

short at the other end as well. The period from 1973 has not yet run its full course. The growth rate calculated here for Period C will need to be changed to reflect whatever economic conditions prevail between 1984 and the end of the current epoch. If, when the full course is run, the average growth rate in Period C turns out to be above 0.48% the average growth rate for the entire series will have to be moved upwards and vice versa.

Because data are unavailable or as yet incomplete, the average rate calculated for Period B provides a sounder basis for establishing the economic character of Periods A and C than is the average growth rate calculated for the series as a whole.

Graph 1:9 uses the new periodisation to reveal the three distinct economic epochs in the NIMP curve after figures have been adjusted for the effects of the war effort. The dotted line tracks war-adjusted NIMP values. The solid line is the principal trend line, linking the figures in three separate constant growth series at the years identified as breaking points, 1946 and 1973. The solid line, therefore, reveals the overall economic character of epochs.

In Graph 1:9, as before, the nature of development in the epochs is revealed by the angles of incline between the constant growth curves (solid line) and the bottom axis. A problem, however, is that the natural curvature (exponential growth) of the solid lines makes it difficult to gauge the angles. The dotted line traces the different "trade-industrial cycles" (Trotsky) within the epochs. In Trotsky's schema, oscillation in trade-cycles (boom-depression-crisis) is used to supplement the overall periodistion when synchronising the economic foundation to the superstructure. But in Graph 1:9, for reasons already noted, the extent of real oscillation is reduced, the result being that distinct cycles are difficult to identify. In all, Graph 1:9 accentuates curvature when straightness is required and accentuates straightness when curvature is required.

Graph 1:10, using the techniques developed for Graph 1:4, enhances the visibility of both the epochs and the cycles in the data. The dotted line, which plots the annual percentage growth "accumulated" to each interval in the data, illuminates the cycles. In the 58 years covered in the series, eleven complete trade-cycles appear. These cycles can be periodised roughly as follows: A: 1926-1933 (8 Years); B: 1934-41

(8 years); C: 1942-46 (5 years); D: 1947-52 (6 years); E: 1953-58 (6 years); F: 1958-61 (4 years); G: 1962-67 (6 years); H: 1968-73 (6 years); I: 1974-76 (3 years); J: 1977-79 (3 years); K: 1979-81 (3 years).

The synchronisation of economics and social trends

According to Trotsky, once the curve of capitalist development has been fixed, economics can be synchronised with politics, ideology, - in short, all the elements of the social superstructure. From a marxist standpoint, we would expect to discover that significant changes in the economic base are reflected in the developmental pattern of the social superstructure. Of course, we cannot expect the correlation to be immediately visible at all times. When examining the development of any particular element of the superstructure, it must be borne in mind that all the other superstructural elements act as mediating factors reshaping each "subterranean impulse" from the economic base [17]. By the same token, the precise configuration of different superstructural elements, their relative weighting and rigidity, etc. cannot be known a priori.

To arrive at the real parallelogram of social

forces requires a great deal of careful and painstaking work. The task of establishing all the real, empirical interconnections is far beyond the scope of our study. To describe the process of fixing the curve of economic development takes up 45 pages in our study. Before the interconnections between elements can be discovered, it is necessary to fix separate curves for each element. Thus for each superstructural element, it would be necessary to repeat much the same analysis made for the economy in this chapter - even before the problems of all the interconnections between these elements could be dealt with.

Nevertheless, it is possible to illustrate the general principle of base-superstructure correspondence using some examples of the "fit" between the curve of economic development fixed above, and certain non-economic trends. The influence of mediating factors are ignored in the examples, which are deliberately selected to make the test as difficult as possible. Intuitively, murders and suicides appear as actions by isolated individuals, explicable solely in terms of personal-psychological motives, desires, self-images etc.

Graph 1:11 reports the murder rate in New Zealand for the period covered in our economic data [18]. Fluctuations in this rate can be compared with fluctuations in the rate of economic growth. The result is striking: with only two exceptions (1947 and 1949), every change in the economic growth rate corresponds to a change in the murder rate. Of course, the relationship could be pure coincidence. But that still leaves the problem of why change in the two rates should coincide fifty-seven out of fifty-nine intervals. Insofar as the relationship is not coincidental, trade cycles somehow contribute to acts of violence.

The correlation falls in two distinct periods, with 1967 as the breaking-point. In the first period, changes in the murder rate and economic changes move in opposite directions: economic decline correlates with murder rate incline; economic incline tallies with decline in the murder rate. In the second period, the variables move in the same direction.

A less obvious pattern in Graph 1:11 consists in three long waves in the incidence of murders. Roughly speaking, the breaking points here are 1934 and 1969. From an average of over 0.8 per 100,000 people in the

first period, it falls to about 0.2 in 1937. For the entire period between 1937 and 1969, only four years exceed the 0.8 level. From 1969, when it was less than 0.2, the rate has steadily increased to almost 1.6 in 1981. Disregarding 1944, 1945 and 1951, the basic trend in the graph exhibits a U-shape. Thus there appears to be an inverse relationship between the long waves in the economic growth rate and long waves in the murder rate. The "fit" between the two curves would undoubtedly have been even closer but for the fact that a large number of people were abroad fighting World War II.

Graph 1:12 reports the incidence of suicide among the New Zealand population, again for the 1926-1984 period [19]. The first and most obvious trend is the overall U-shape of the curve. The suicide rate is highest in 1932 (1.65 : 10,000), in the middle of the long recession. From that point, the overall trend is downwards until 1973, from which time it is on the rise again. Throughout the long boom of 1947-1973, the suicide rate exceeded 1.0 : 10,000 only in 1948. By contrast, during the period of sluggish growth to 1947, the rate only once falls below 1.0. The correlation between fluctuations in economic growth rates and fluctuations in the incidence of suicide is evidently

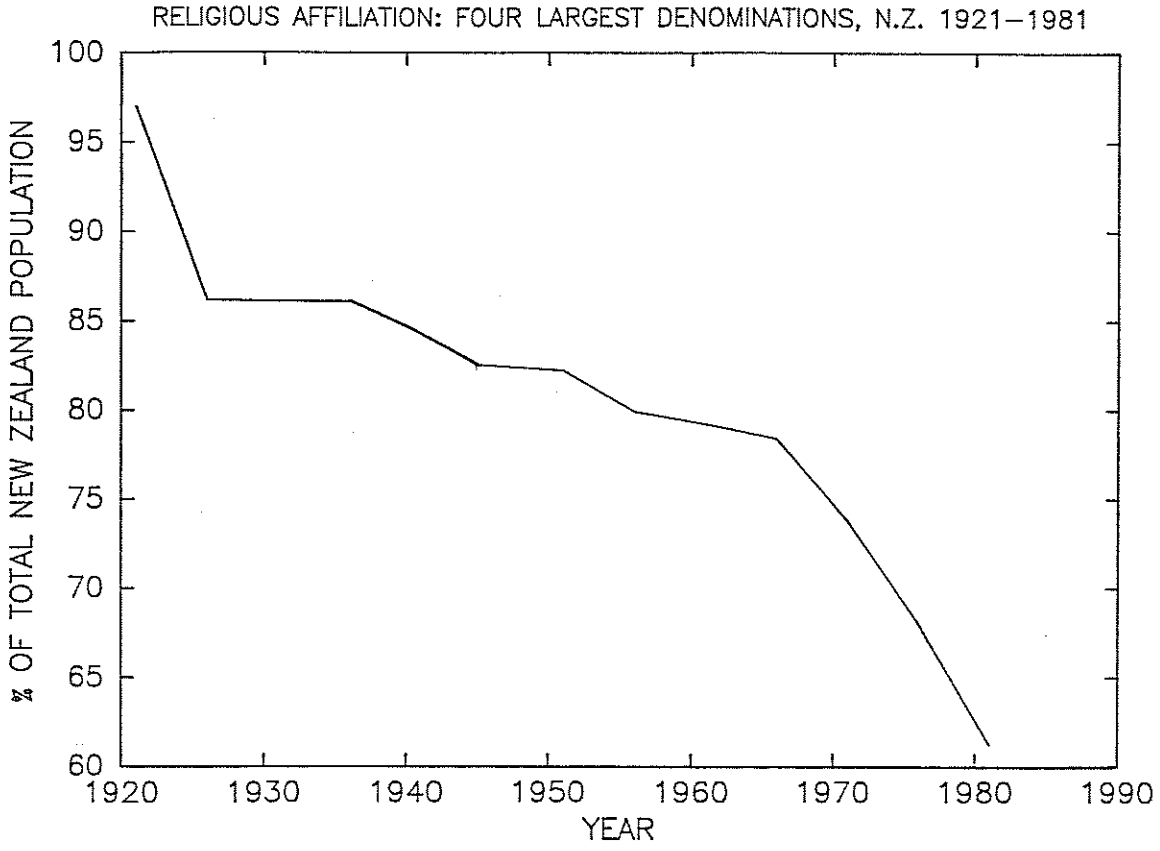
not as clearcut as it is for murder.

Graph 1:13 reports arrivals of long-term immigrants to New Zealand for 1921-1982 [20]. The pattern is quite clear here. During the period of sluggish economic growth to 1947, the level of immigration is reduced (to near-zero in the long recession and the war period). The level of 1926 was not reached again until 1950. Throughout the long boom, the level remained high, peaking in 1966. Disregarding the rise in 1972-3, the overall trend is downwards during the current crisis. Because Graph 1:13 plots absolute figures rather than ratios, it underestimates fluctuations. Nevertheless parallels between NIMP growth rates and alterations in the level of immigration are apparent.

Of all aspects of human experience, religion surely must be most remote from the earthly materialism of economic life. Graph 1:14 reports the percentage of the total population who profess affiliation to one of the four "main-line" churches (Anglican, Presbyterian, Catholic and Methodist) [21]. The secular trend revealed is one of decline from 97% in 1921 to 61.2% in 1981. Religious affiliation statistics are collected by the Census at five yearly intervals. No data are

available for 1931 or 1941. Because the data are collected quadrennially, short-term fluctuations cannot be established.

GRAPH 1: 14



The most rapid decline between successive intervals (10.8%) occurred between 1921 and 1926, i.e. the beginning of the long wave of sluggish growth. One problem with the data is that people may break with the church at any time between censuses. The breaking-points in the religious affiliation data are 1945 and 1971. In the first period (25 years), the annual decline averages 0.58%. In the second period, it slows

to 0.32%. But in the eleven years for which data are available during the third period, the average rate is 1.05%. By contrast, adherence to the Pentecostal church grew fourfold in the ten years 1966-1976 [22].

It is exceedingly difficult, if not impossible, to summarise fluctuations in the societal weighting of political and social movements in a single measure [23]. Treatment of them must be largely symptomatic, i.e. take the form of classifications by event types. But even here it is often difficult to determine objective, non-arbitrary breaking points between them. Typically one finds historians at odds with each other with respect to the true progenitors and true heirs of political and social movements. Were, say, the radical movements from the late 1960s just an extension of earlier civil rights movements, or were they qualitatively different in character ?

For example, student radicalism in the mid-1960s branched out into opposition against the Vietnam War (late 1960's), moved on to environmentalism (early 1970's), evolved into the anti-apartheid movement (HART: 1970's and 1980's), producing particularly in the last ten or so years the broad anti-racist, anti-sexist and peace movements. Leaving aside the modern

labour movement, the most important durable social movements in New Zealand since the 1920s are probably the various Maori and womens' movements [24].

The renaissance of maori culture is very clearly correlated with long waves of slower economic growth. The 1920s saw the emergence inter alia of the Ratana movement, which was absorbed into the Labour Party after the latter came to power in 1935 [25]. During the long boom, Maori nationalism subsided, gaining prominence once more in the 1970s and 1980s (the land marches; Bastion Point; Nga Tamatoa etc.) [25].

Reviewing the history of the women's movement in 1979, Bunkle identifies two major waves of feminist activism since the 1920s, the old left and new left. In the 1930s, there were radical women's groups which did not survive World War II; the new left emerged out of new women's rights organisations in the late 1960s, the first being SROW in 1966. In the 1970s, the accent shifts from "women's rights" to "women's liberation" [26]. As in the case of Maori movements, it is undeniable that women's movements are more likely to to develop and play an important role during periods of economic decline than they are during periods of prosperity.

Support for the major political parties likewise tallies with the economic periodisation determined above. Thus e.g. the Labour Party won all elections from 1935 to the beginning of the long boom. During the whole period of the long boom, it regained power only once - an event coinciding with the 1956-1957 recession. All told, the Labour Party held power for 13 out of 21 years in period A, 3 out of 26 years during period B, and 6 out of 14 years in period C [26].

In the Introduction, it was noted that a number of sociologists criticise Marxism for its economic determinism. In the examples above, the development of the economy has been related respectively to psychological, political, social and ideological phenomena. Traversing the superstructure in this way, clear, regular and persistent parallels have been demonstrated. No specifically marxian aggregates or techniques have been employed to generate these regularities.

Non-marxist social scientists argue that the superstructure is independent of the base. In the light of the data presented, there are logically only two options open to them. They can deny the "constant

conjunctions"; alternatively, they must conclude that the economic base is determined by the superstructure - at least some of the time. Whatever their choice, the onus is on them to do some painstaking scientific research which demonstrates the "inadequacy of the base-superstructure model". Until such time that dogmatic rejection of this model is supplanted by informed a posteriori reasoning, marxists are at complete liberty to continue using it [27].

More sophisticated critics of this position will undoubtedly argue that where regularities have been discovered, these regularities by themselves do not establish causal connections between the variables. They will argue that where it is shown e.g. that social movements appear during periods of economic downturn, the question of why the particular movements emerge in the form that they do has not been addressed. That is quite true.

But that merely returns us to Trotsky's warning about the potential dangers associated with this method: vulgar schematism and economic reductionism, which ignores the mediation of extra-economic processes. No claim is made here that merely establishing interconnections between base and

superstructure "explains everything". Rather the claim is that this method can pinpoint in a non-arbitrary way what it is that requires further explanation, showing where detailed historical investigation must enter into the analysis [28].

At the beginning of this chapter, two problems remained to be resolved. The first concerned the viability of the marxian, Durkheimian and Weberian conceptions of social causation. The adequacy of the marxian conception has been proved in a confrontation with the data. In the language of modern philosophy of science, "novel facts" have been uncovered in the test. But precisely because the facts are novel, it is impossible to assess the merit of the conception relative to those of its rivals. Pending criticisms and alternative explanations, the further contest between Marx, Durkheim and Weber cannot be pursued in this study. The problem which remains is: what are the factors which determine the shape of the curve of capitalist development ?

CHAPTER TWO

BOURGEOIS THEORIES OF CAPITALIST DEVELOPMENT.

Using only lines to report official statistical data and classifications, the graphs in the previous chapter represent the best summary of New Zealand's overall economic development available [1]. The graphs lead to an important conclusion concerning the task of economic historians. Theorists wishing to explain New Zealand's development must account for the fact that economic progress takes place through clearly visible cyclical fluctuations, and that these cycles are grouped together in distinct sub-periods of faster or slower growth.

The possibility that both trends are wholly explicable in terms of unique combinations of circumstances cannot be ruled out a priori. As a matter of fact, in New Zealand successive booms and slumps have been explained mainly in terms of historical "coincidences", natural calamities, exogenous and/or contingent factors: gold discoveries, borrowing, rising and falling prices, the depressions of the 1880s and 1930's, the World Wars, the 1951 Waterfront Lockout, the Korean War Boom, the "oil

shocks" of the 1970's, etc. [2]. That these events took place and had a significant impact on economic development is undeniable. But such explanations ignore the fact that cycles are by no means unique to New Zealand.

Wherever capitalism (generalised commodity production) prevails, economic development exhibits the same pattern. Working at the level of world economy, Ernest Mandel identified over twenty cycles since 1816 [3]. He groups these into long waves: four "long booms" and four periods of recession and stagnation. In the light of the frequency of the cycles throughout the international capitalist economy for over 150 years, it would be unscientific to ignore them in any attempt to explain capitalist development.

Our aim in this chapter is to examine and evaluate very briefly how mainstream bourgeois economists account for the pattern of capitalist economic development. To this end, it is necessary to introduce the elements of bourgeois economic thought, and to compare and contrast the doctrines of its two major schools: "protectionism" and "free-trade". These two traditions, founded two hundred years ago, survive to the present though the names of each have changed a

number of times [4].

Today the customary reference in political debate is to "state management of the economy" (market interventionism) and "market-oriented approach". In modern economic theory the terms are Keynesianism and monetarism. In popular parlance the most common reference is to "demand-side" economics ("Mixed economy", "welfarism", "Muldoonism") and "supply-side" economics ("Thatcherism", "Reaganomics", "Rogernomics" etc.).

Scitovsky provides a good general definition of economics as a "social science concerned with the administration of scarce resources" [5]. For economists, Scitovsky states, this administration poses three distinct problems. The first consists in ensuring "the full utilization of scarce resources". Once this problem is resolved, "there is the further administrative problem of properly allocating these resources among their different uses and to the satisfaction of different wants". Finally, economic administration must secure a proper distribution among consumers of these resources or of the goods and services produced with their aid.

CHAPTER TWO

By definition, economic resources are scarce. The function of economic science is administering scarce resources in such a way that maximum satisfaction of human wants results. Full employment of all available economic resources is the primary economic problem, because "their incomplete utilization would result in a loss of human satisfaction."

Given Scitovsky's prescriptive definition of economics - with which few economists have disagreed radically - a central concern of economists in New Zealand must be to explain the pattern in economic development revealed in Chapter 1, in terms of the way in which economic resources have been administered.

The starting-point for any explanation of the pattern of economic development is an analysis of those conditions which must hold if economic development is to take place at all. But this presupposes some definition for economic development. Until one knows what development consists in, it is not possible to cite the conditions necessary for development.

A standard bourgeois definition for economic development as an expansion in output was given in chapter one. Economic development is said to occur

wherever the total of new and direct income arising in the process of producing goods and services for the market expands.

What, in general, are the conditions necessary for an expansion of economic output ? A number of different and unrelated conditions can produce this expansion. For a start, production can be expanded by raising the utilisation rate of installed productive capacity (e.g. by operating existing plant and machinery for more hours per week) or by installing additional plant and machinery.

Other things being equal, both greater utilisation of installed capacity and installation of additional capacity mean higher costs. Additional funds are required to pay extra wages or purchase new machinery, etc. But, of course, things are not always equal. Average hourly wages can be reduced so that the total wage-bill falls, while at the same time the total number of hours worked rises. Total wages can be forced down to the point where both the additional labour and equipment costs are offset. But expansion of output also implies an increase in raw materials throughput and consequently a further cost. The general conclusion follows that one necessary condition

for expanded production is an increase in investment, i.e. additional capital.

Output can also be expanded by the intensification of production, i.e. some factors of production can be made to operate more intensely with the result that more product is created in the given period [6]. The mechanisms of intensification are numerous. Existing resources can be used more efficiently (e.g. Taylorism, Fordism, etc.), productive factors can be used more effectively (rationalisation) or new improved plant can be introduced to raise productivity in the process as a whole ("new technology"). Intensified production again means higher through-put of raw materials and hence additional investment.

However one looks at it, economic expansion is sooner or later predicated upon expanded investment. The analysis of the necessary conditions for economic development therefore poses the question: "what are the factors which regulate (promote or stifle) the flow of investment ?".

Before this question can be tackled, another one must be answered however. One cannot invest what one doesn't have. What determines the size of the

investment fund ? To answer this question properly requires more systematic treatment of fundamental questions such as "what is investment ?" and "where does it come from ?".

To analyse the nature and origins of investment, it is necessary to draw an elementary distinction between necessary and surplus product. A part of the total output of an economic system is consumed in the reconstitution of the conditions of production (replacement of stocks of raw materials, refurbishing plant and machinery etc.). The fraction of total output consumed in this reconstitution is the necessary product. Any remainder is surplus product. Thus surplus product equals total product less necessary product.

Applying this distinction, the most basic pre-conditions for economic development can be developed. Firstly, any society that diverts part of its necessary product to ends other than reproducing the conditions of production must suffer a decline in the productive capacity of its economy and, consequently, a fall in total output [7].

Secondly, the size of the investment fund is

limited by the degree to which the level of production in the past exceeded past consumption. In a capitalist economy, the size of the investment fund cannot be larger than the mass of profits less the personal consumption of the investors to whom those profits accrued. Yesterday's profits are a key determinant of the level of investment today [8].

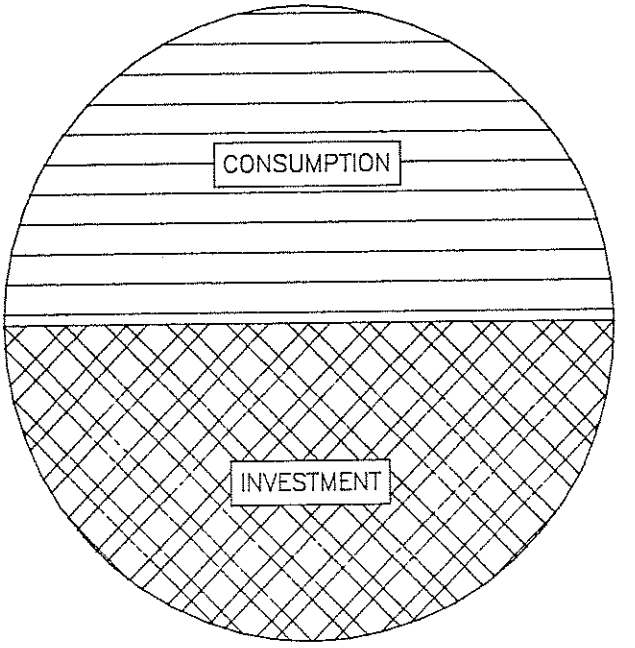


FIGURE 2:1 THE BOURGEOIS MODEL OF THE ECONOMY

Figure 2:1 illustrates these principles. The region inside the circle represents the universe of incomes, or the total output of the economy. This total income is divided into two funds according to economic function. The consumption fund corresponds to the necessary product, i.e. it is spent on reproducing the

conditions of production, compensating employees, maintaining equipment, replacing raw materials and so on. The investment fund comprises surplus product used to extend or intensify factors of production.

The model shown can also be made to represent the conventional economists' notion of "Net Output". Net Output equals the rewards to the factors of production, i.e. salaries and wages, interest on borrowed capital, and manufacturers' surpluses. These three items are components of national income [8]. That is to say, Net Output is calculated after reproduction costs of plant, raw materials, etc. have already been deducted from total output. Workers' income represents the bulk of the current consumption fund. The investment fund comes from Manufacturers' surpluses and interest payments.

The model implies a zero-sum game [9]. Whatever is consumed cannot be invested and vice versa. In terms of this model, the annual percentage growth rates calculated in Chapter One were determined according to the following formula: (((Total Output -Consumption)* 100)/ Total Output). In other words, economic growth rates are a function of the ratio of investment (surplus product) to total output. This function is

referred to as the society's savings ratio [10].

Fluctuations in economic activity, expansions and recessions, at this stage appear to result from alterations in the savings ratio [11]. In turn, the savings ratio is inversely related to the level of consumption. As can be seen in Figure 2:1, the level of consumption is the crucial independent variable: increasing consumption leads automatically to a decline in the savings ratio and vice versa.

Whatever nuances and qualifications may be introduced, all conventional macroeconomics uses the elementary relationships in the model as the starting point for an explanation of capitalist development. For both supply-side and demand-side economics, the level of consumption is the crucial independent variable. When all is said and done, economic downturns result from disequilibria between savings and consumption; on this all agree. But the cause of disequilibrium can be interpreted in two ways. Either there is too much consumption and not enough savings, or there is too little consumption and too much savings.

In economic textbooks, both this start-point and

the fact that it is held in common tends to be buried by jargon, qualifications and algebra. But different prescriptions for economic management follow from these different perspectives. Economists' perspectives are most clearly revealed in policy statements made about national economic performance [12].

In New Zealand since 1973, through the crisis of capitalist development, politicians have been given two kinds of advice. Trade union economists among others argued that a precondition for renewed growth was a rise in workers' incomes. The Treasury on the other hand argued that consumption was already too high; this position is best enunciated by the Hon. David Lange's favourite homily is that "New Zealanders must tighten their belts" [13].

The supply-side

Supply-siders argue that recessions result from a savings ratio which is too low. This problem is seen to be caused by the state's attempts to administer the economy. The allocation (supply) of resources and incomes by market forces would either achieve permanent equilibrium between consumption and investment, or at least the best possible balance in an imperfect world.

CHAPTER TWO

Any attempt to consciously redirect market forces will cause sluggish growth. The reason is that such redirection always involves a mis-allocation of economic resources. Most important here are shifts of resources away from investment to consumption.

Intervening against market forces inevitably results in the misadministration of economic resources. According to supply-side economists, any attempt to regulate the trade between economic actors (or enterprises) will have disastrous consequences. Three of the most important consequences are: (1) an investment fund insufficient to maintain economic growth, (2) investors insufficiently rewarded for their placements and (3) investors lacking sufficient incentive to allocate and coordinate resources optimally. These three consequences combine to undermine economic development.

If investment as a factor of production is inadequately rewarded, investors will not continue to supply the additional funds required for economic growth: their propensity will be to consume rather than save their income. An upturn in economic activity then requires measures which depress the propensity to consume and stimulate the propensity to save. The ideal measure in this regard is a direct tax on

consumption [14].

GST and VAT are means which serve a number of "positive" ends simultaneously. Firstly, final prices for goods and services are increased by the tax and people become reluctant final consumers. Secondly, whatever is not consumed is saved; the savings ratio rises. Thirdly, governments can reduce personal and/or company income tax by the sum collected through consumption tax; net incomes can then rise which, together with the disincentive to consumption, further lifts the savings ratio. But while consumption tax <u>can</u> increase the size of the investment fund, it <u>cannot</u> guarantee that optimal use is made of scarce resources.

There are two basic mechanisms to coordinate and allocate the supply of resources. One is to directly regulate the flow of resources through systems of duties and rights, i.e., through conscious social controls. If supply is administered this way, some enterprises will have privileged access to certain goods. Market-shares and/or prices of some goods and some enterprises will be protected. Alternatively scarce resources can be distributed by market forces. If trade is free, i.e. unfettered by duties and rights, resource allocation is determined by

competition. Individuals decide what and how they will produce, and what quantities of resources they will buy at any given price. Resource owners decide what quantities they will sell at various prices. Prices are the result of supply and demand, i.e. of the combined decisions of all the individuals concerned. In this case, all economic actors seek to maximise their private satisfaction. Incomes appear as individuals sell resources, capital, land and labour, and as entrepreneurs receive profits. All income earners freely decide how they dispose of their incomes. Thus they freely allocate their income between savings and consumption. Having made this allocation, they decide in what activities savings should be invested and which goods or services should be bought for consumption [15].

Sellers of the various factors of production are rewarded according to buyers' valuation of the economic worth of these resources, at the point they appear in the market. Because entrepreneurs seek maximum profits, they are forced to produce to satisfy consumer demand. The reason is that consumers are free to spend their income as they wish. The size of profits will be directly related to the degree to which the particular good or service satisfies consumer demands.

CHAPTER TWO

According to supply-siders, free trade ensures optimal administration of economic resources, i.e. maximal satisfaction of human needs, because it is a system which is driven by the choices of consumers (the thesis of "consumer sovereignty") [16]. Free and open competition forces every economic agent to utilize scarce resources in ways which maximise the potential of those resources to satisfy human needs.

If competition maximises the utilisation of scarce resources, every barrier to competition must be removed so that maximum satisfaction of human needs is achieved. The only role the state can legitimately have in the economy is promulgating regulations which open, and keep open, markets to competition. Wherever states overstep the mark, i.e. seek to influence the allocation of goods and services through direct regulation, national economic performance must suffer in the long term [17].

Supply-siders reject non-market solutions to the problem of administering scarce resources on two grounds. Firstly, all non-market solutions are held to be arbitrary and despotic. They are despotic in that the direct choice of final consumers in deciding which

human needs should be satisfied is overruled. They are arbitrary in that they invoke principles other than the direct evaluation of consumers to rank the order in which human needs should satisfied. Secondly, only competition in markets can ensure that personal satisfaction of own needs comes through the maximal satisfaction of the needs of others [18].

Subverting market forces always involves protection from competition and means a degree of monopoly access to scarce resources. As Richard Manning, professor of economics at Canterbury University puts it, "when, governments get in and create laws and regulations which are alleged to protect the interests of the "little man", they work to the interests of powerful corporate interests. I think that the New Zealand economy has performed very badly because we have allowed (with the very best of intentions) some large corporations and powerful individuals to obtain a stranglehold over our economy" [19].

Real co-operation, so the argument goes, comes about only through competition. Monopoly coordinates economic activity in ways that oppose personal to general interests: individuals can raise their personal

satisfaction through actions which reduce the economy's capacity to satisfy needs in the community as a whole. Supply-siders give a myriad of examples illustrating the ways in which this can happen. In New Zealand, it is argued e.g. that producer subsidies obscured "market signals" indicating that products no longer satisfied consumer needs; that import duties encouraging domestic industry allowed price-rises yet, relative to off-shore producers, scarce resources were wasted and productivity throughout the whole economy fell; trade unions prevented wages from falling in step with declining profits , so that firms stopped producing and resources were not fully utilised; the direct provision of goods and services by state agencies, funded from taxes, generated bureaucratic organisations without any responsibility whatsoever to costs or consumer preferences [20].

The Labour Government and Treasury economists have developed a supply-siders solution to the crisis of capitalist development in New Zealand [21]. First the economy is to be "deregulated". Export and producer subsidies are being removed so that producers will be forced to diversify their product, to adjust to consumer (market) needs. Tariff barriers are being taken down to restructure and rationalise the economy.

International competition will prune the dead wood from the economy; inefficient units are to go out production so effective producers can be released from the burden of carrying them [22].

The state apparatus is being brought within the embrace of "the user pays principle". State supplied goods and services will no longer be free or subsidies will be reduced. Consumers must either contribute to or reimburse the costs of services (education, health, housing, research, statistics, development, etc.). Some state activities have been privatised, i.e., contracts have been let to private operators to conduct research and to deliver summons from the court [23].

Other commercial state operations (railways, forestry, mines, airline, post-office, broadcasting) are being "corporatised", re-established as independent enterprises. To finance activities corporations compete for funds in private loans markets. State corporations are expected to return ten percent of the value of assets annually to central government. As well these activities, formerly the exclusive preserve of the state, are being opened up to private operators [24].

CHAPTER TWO

"Flexibility" is to be introduced into to the system of industrial relations. The actual mechanisms which are to be used to "free-up" the labour market have not yet been officially released. The Green Paper referred to in the introduction reflects the opinions of the captains of industry about the labour market. Trade unions are portrayed as monopolies preventing the necessary competition in labour markets. It is clear that attempts are to be made to develop institutions which will ensure wages will "reflect the capacity of the firm to pay" (company profits); i.e., company unions [25].

Finally, all these policies are set within a fiscal framework of strict monetary control. In the past the state used monetary and fiscal policy to stimulate the economy. The Reserve Bank of New Zealand Act (1933) created the Reserve Bank as the single central bank and gave it the duty "to control monetary circulation and credit in New Zealand for the promotion and maintenance of the economic welfare of the Dominion". The Act was amended in 1936, from which time "the Bank was to give effect as far as may be to the monetary policy of the Government, as communicated to it from time to time by the Minister of Finance ..." To promote and maintain the "economic and social

welfare of New Zealand, the Bank was required not only to regulate and control credit and currency in New Zealand but also foreign exchange transactions" [26].

Supply-siders regard the 1936 amendment as a disaster. Firstly, it gave central government the despotic power to determine social needs of New Zealanders and to adjust markets to overrule the choices of individuals. Secondly, money supply became subject to the political aspirations of governments. Election chances of governments were enhanced by expanding the volume of money and credit in the economy, and enabled consumption beyond the limits of existing income. Because credit gives consumers immediate access to goods and services they would otherwise have to save for, the expansion of credit directly contributes to the under-supply of investment [27].

But increasing spending power in the economy through expanding the money supply enables sellers to raise prices of existing goods and services. In New Zealand, supply-siders see the attempts of the state to stimulate the economy through the creation of extra demand as having led only to permanent inflation. The average span of trades-cycles in New Zealand since 1973

has been three years (see chapter one), i.e., the length of the parliamentary term. Political and economic analysts causally linked the two, suggesting business cycles were the results of policies governments used to further their election chances [28].

But for creditors and interest bearing investments, inflation is disastrous because the repayment of the original sum loaned is made in a devalued currency. Inflation reduces the real rate of return to investment as a factor of production. Thus, state management which attempts to promote economic growth through expansionary monetary policy actually undermines development because it encourages the propensity to consume and stifles the propensity to invest [29].

All the arguments, statements and policies of supply-side economists point in the same direction, in order to secure the wealth of the nation it is necessary to allow the iron hand of the market to administer the flow of scarce resources. Paraphrasing Galbraith, Ernest Mandel neatly sums up the gist of supply-side economics: "The rich work too little because taxes are too high, because they lack

incentives, because it is not worth their while to work more, i.e., because they are too poor. The poor work too little because they get too much money from the state, i.e., because they are too rich. If the rich become richer they will work more. And if the poor become poorer they will also work more. That is the basic message of the monetarist policies" [30].

The argument, in the terms of our model (Figure 2:1), is that state intervention enabled the consumption fund to encroach upon the investment fund. The cause for the contemporary crisis of capitalist development in New Zealand is that the share of national income going to investors is too low [31]. Figure 2:2 adapts Figure 2:1 to take account of the argument.

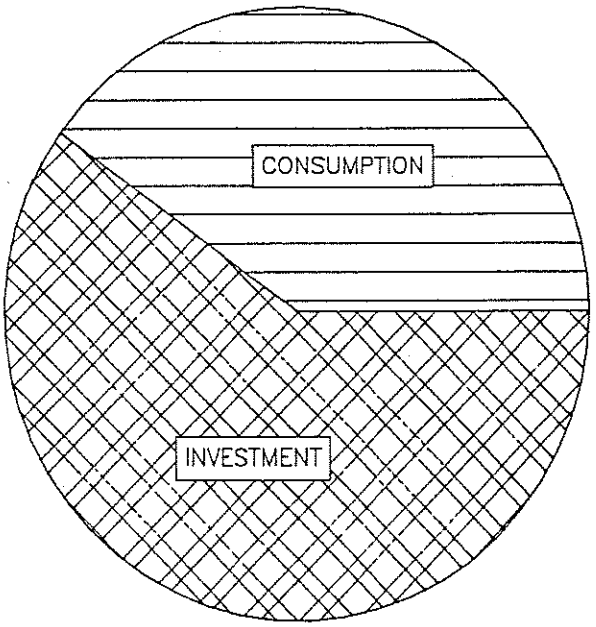


FIGURE 2:2 THE SUPPLY-SIDE SOLUTION TO THE CRISIS

CHAPTER TWO

Demand-led growth: the other side of the coin.

Supply-siders argue economic equilibria, i.e. balanced economic development, will occur if, and only if, market forces, i.e. prices, supply and demand, are the sole allocators of scarce resources. If they are right, upturns in capitalist development in New Zealand should correspond to periods when the market ruled and the downturns should correspond to periods where the state overruled the market. The demand-side argument goes almost exactly the other way round. Now state involvement in economic affairs of the nation is rational (non-arbitrary) because it is essential for economic development [32].

State intervention is essential, according to demand-siders, because the spontaneous operation of market forces will always under-utilise economic resources. A number of different reasons are cited. Scitovsky for instance points out that markets can only rationally allocate scarce resources where resources are freely available; in situations of excess supply markets under-employ them [33]. In the opposite direction, Westrate points out that without state involvement much of the economic infrastructure the market depends upon would never have been developed.

According to him, two-fifths of gross investment in New Zealand during 1951-6 was investment by government authorities and most government investment takes the form of "social capital" into the economic infrastructure (transport systems, schools, hospitals, etc.) [34].

Demand side economists do not deny a role for markets, but argue that unregulated markets will undermine economic growth in the longer term. This is taken to be the result of a tendency inherent in all markets to reward the strong and penalise the weak. If administration of the economy is left to market forces, the distribution of national income will continually favour investors. As is shown in Figure 2:2, whenever the share going to investors rises the consumers' share must fall.

If the investment fund continually rises, ceteris paribus the volume of goods and services going to the market will also rise. But if, at the same time, the income of consumers continually falls, a point is reached sooner or later where the value of goods and services in the markets exceeds total consumer income. In other words, in any economy ruled by market forces alone, insufficient aggregate demand will be created to

clear the markets of goods and services. If product stacks up in shops and warehouses, firms stop producing and the level of economic activity declines. Disregarding the extension of credit, subsidies etc., the level of aggregate demand sets absolute limits to the level of economic activity [35].

Supply-siders argue that over-consumption (under-investment) are the cause of economic depressions; demand-siders argue depressions are caused by under-consumption (over-investment). For demand-siders, only state management of the economy can maintain the equilibrium between the investment and consumption funds so essential for long-run economic growth. State intervention might be despotic at times; from an economic point of view, however, it is entirely rational. But for state intervention, there would be incomplete utilisation of scarce resources and, as a result, a loss in human satisfaction.

The demand-side argument hinges on the notion that markets tend to favour investors over consumers. Why is this the case ? The answer given is quite simple. Investors have savings, which means they can always choose to invest or to consume. If profits or interests rates are low, investors simply withdraw from the

relevant market; they will not return until rewards are higher. By "artificially" creating a shortage of investment in this way, investors can raise the rate of return on their input to production. The vast majority of consumers are wage and salary earners. For lack of savings, they are dependent for their subsistence on income that comes through working each week. Being without savings, they must work more or less continuously; they cannot withdraw from working for any protracted period. From the standpoint of the market, there is a fundamental inequality between consumers and investors: consumers are systematically forced to enter markets, investors have to be attracted into them [36].

Supply and demand can produce equality of results only where they set out from equality of access. Where economic agents are unequal at the point of entry to markets, the laws of supply and demand tend to exaggerate the initial inequality. The natural inclination of unregulated markets is, therefore, to help the rich to get richer and the poor to get poorer.

When the rich get richer, it is argued, they invest more; when the poor get poorer they consume less. The fundamental message of demand side economics is that, without the intervention of a higher

rationality (the state), market economy will inevitably lead to the underemployment of land, labor and capital. To maintain full utilisation of economic resources in the longer term, the state must periodically create additional means of consumption.

But although they are absolutely united on the necessity for state management of the economy, demand side economists are less united about the appropriate mechanisms and proper aims for state intervention [37]. Some argue that income tax should be used to redirect the flow of existing national income; tax the rich to give to the poor. Others argue extra demand should be created through deficit-financed government spending. Yet others argue that the additional demand should be created through expansions of the money supply.

In a submission to the Royal Commission on Monetary, Credit and Banking Systems in 1955, the Governor of the Reserve Bank of New Zealand spoke on what he thought was involved in "adopting a dynamic policy of "gingering up a sluggish economic machine": easier credit conditions; lower interest rates; guarantee or insurance schemes for bank overdrafts and mortgages; government cash deficits; high levels of (state) works programme; maintained level of social

security benefits; moderate tax concessions; special depreciation allowances. "Measures of this kind, he suggested, can (and should) help to keep spending up to the level of the availability of goods and services. If begun early enough the steps need not be drastic" [38].

Wolfgang Rosenberg, one of New Zealand's most distinguished economists, continues to insist that "demand creates its own supply" [39]. He argues that all the levers mentioned by the Reserve Bank Governor will be absolutely useless without state control of foreign trade. Economic growth, he suggests, is the result of high levels of effective demand. Demand can be stimulated by expanding the money supply. But this technique can be inflationary, and lead to a fall in exports. If additional demand is created while prices of goods produced in New Zealand are inflating then, in the absence of import controls, part of the extra spending capacity of consumers will used to purchase imported goods and imports will rise.

The fall in exports and rise in imports leads to difficulties in the nation's balance of payments. To prevent the insolvency of the nation, the Government will be forced to cut effective demand, tighten up the money supply or squeeze credit, in other words induce

an economic recession. For Rosenberg, whose economics is based on Kuczynski's "magic square", demand-stimulation techniques can only produce long-term economic growth if the state has absolute control over four fundamental levers (policy instruments): credit and money supply, prices, interest rates and foreign trade. Without control over all four levers, state demand-stimulation policies produce "[t]he zig-zagging between growth, inflation and recession [which] is called the 'trade cycle'" [40].

For Rosenberg, the period 1938 to 1968 "was a highlight in New Zealand, not to say human history". "Never before, in the capitalist world, had a country been able to maintain absolutely full employment. New Zealand during that period almost banished poverty from its shores. Crime was low by world standards, race relations were excellent, housing, health and education were second to none in the world". "Import controls were the main reason for New Zealand's economic miracle of full-employment from 1939 to 1975" [41].

For Rosenberg, the current crisis of capitalist development in New Zealand: "the degeneration into an ordinary capitalist economy with its fluctuating mass unemployment, its occasional productive stagnation and

double digit inflation and its balance of payments deficits", is the direct result of the successive relaxation of import controls beginning in 1967 [42].

To return to the bourgeois model of the economy shown in the Figures, demand side economists argue that over time the consumers' share of national income tends to decline relative to the share going to investors. To maintain the rate of economic growth, it will be necessary to counter this tendency: to "prime the pump" by expanding the region of consumption as shown in Figure 2:3. This means that, at least temporarily and periodically, the state must overrule the laws of supply and demand to restore equilibria between investment and consumption.

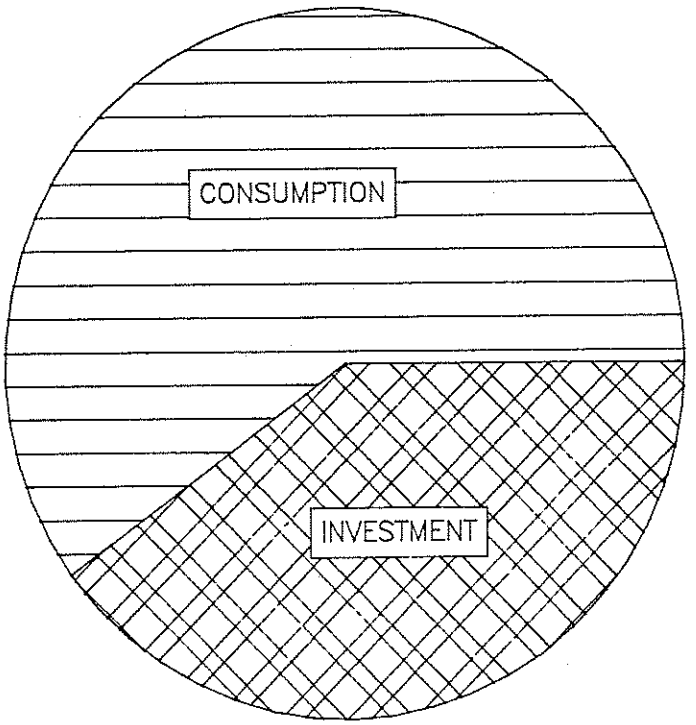


FIGURE 2:3 THE DEMAND-SIDERS' SOLUTION TO THE CRISIS

CHAPTER TWO

The curve of economic theorising

To this point, the doctrine of the two major schools in conventional economics has been analysed in terms of the conditions that determine economic growth (and thereby give the curve of capitalist development its specific shape). Our aim has been to establish how each would account for the historical patterns in New Zealand's capitalist development that emerged in chapter one. The next task is to test these explanations against the empirical evidence. To facilitate this test, it is necessary to stick to the main lines of the arguments, or what modern philosophy of science terms "hard-core assumptions" [43].

In both schools the degree of sophistication varies significantly. Argumentation within schools proceeds with just as much vigour and hostility as it does between them. Most of the sophistication in economic theorising develops through attempts to defend hard-core propositions in the presence of apparently contradictory evidence. To explain away the apparent anomalies , the most able proponents generate auxiliary (supplementary) hypotheses.

But every time an anomaly is encountered, a

logically infinite number of supplementary hypotheses can be generated to accommodate it. The resolution of anomalies gives rise to what Imre Lakatos called "little revolutions". Each little revolution gives a spark of new life to the research programme, sending it off in a new direction. Because competing resolutions are generated for the same anomalies, a number of distinct sub-schools have emerged in economics. The sub-schools take on a life of their own as the scholars "forget" the origins of their particular standpoint or specialty.

To make an empirical test of a theory, it is necessary to put aside, at least initially, all the theoretical embellishments in order to isolate the hard-core assumptions. Economics presents itself as a dense network of independent and competing currents. To remove all the embellishment would require firstly the identification of all the different points of departure and, secondly, tracing out all the separate trajectories of the sub-schools. Unfortunately this arduous but important task has not yet been taken up systematically by historians of economic thought. It is quite beyond the scope of this study to perform. To separate essential from consequential premises in economic theory for the purpose of our analysis, the

original dichotomy of political economy - "protection" or "free trade" - was used. We have been guided also by Rosenberg's reflections about how economic thinking develops:

> "The New Zealand experience of the thirties taught me a new lesson: much of economic theory (be it of the out-dated "free enterprise" type, or of the then modern "Keynesian" type) is mere rationalisation of policies which arise as the logical outcome of specific historical situations.
>
> "The academic refinements of economic theory represent in many ways the vested interest of the economic profession, who like to have things expressed their way in order to be able to advocate them in their own language. A danger of this obsession with the form of explanation of and policy for economic events is that economists fall behind the times with both their explanations and their policy recommendations, because they look at facts as a minor matter and at "correct" formulations as the major ones [44].

One man's crisis is another man's cure

The analysis of the conditions for economic growth postulated by different economists yields the following results. The message of supply-side economists is that any slowdown in economic development results from state meddling in the economic affairs of the nation. Governments shift resources to consumers and economic growth is undermined as the share of national income going to investors declines.

The relationship is almost exactly inverted by the demand-side economists: without state intervention the rate of economic growth will slow because the share of national income going to consumers will fail to keep pace with the supply of goods and services going to the market.

If either side is right about the conditions for economic expansion, then the patterns established in the curve of capitalist development in New Zealand ought to coincide with the pattern and extent of state management of the New Zealand economy. To test their hard-core propositions, it is necessary to summarise the historical tracks of state intervention in the economy.

CHAPTER THREE

TESTING THE DISMAL SCIENCE

In chapter two, the two major conventional theories of economic development were analysed and their fundamental assumptions identified. These assumptions need to be tested against the evidence of actual historical development in New Zealand. Because both theories locate the source of changes in economic growth rates in state involvement in the economy, both can be tested by comparing the curve of capitalist development to the "curve" in state regulation and management of the economy.

For this test to be substantive, two conditions must first be satisfied. The curve of capitalist development, fixed in chapter one, must be supplemented. Data more sensitive to the terms and concepts of both bourgeois theories than national income aggregates are required. As well, the history of state regulation and economic intervention needs to be traced.

At first sight, the best testing ground for both theories appears to be the national income and

expenditure accounts. But, in New Zealand, the national accounting system was developed by Keynesians to register changes in relations between "key" economic variables to enable informed and consistent state management of the economy. The central concepts of the national accounts, including the national income aggregates, reflect this purpose. As a result, tests based on national income aggregates alone will give the explanations of the demand-siders a "natural advantage" over the explanations of their colleagues on the supply-side.

This advantage can be illustrated with an example. As noted above, the national income aggregates sum gross incomes arising in particular cycles of production. State expenditure feeds into national income as it provides suppliers of goods and services with incomes. But the bulk of state expenditure is funded by taxation on incomes. As a result, an increase in the tax rate and increased levels of state expenditure will register in the accounts as economic expansion - even when the real level of economic activity remains constant.

The difficulty here is the whole conception of "gross income". The tax component of wage and salary

payments, for example, can enter into the annual national income a number of times. First it appears as PAYE tax on private sector wage payments. This tax is used by the state to purchase e.g. a school bus. The transaction generates income for a firm, and the workers in that firm. Both, however, again pay tax. The state uses that tax to hire a busdriver... who also pays PAYE tax (and so on). The conclusion is obvious: other things being equal, the larger the share of GDP that passes through the state coffers, the less national income aggregates accurately reflect the level of economic activity [1]. Whenever the state primes the economic engine, the accounts will register additional economic growth even if there is none .

In this sense national accounts data are not neutral. They exaggerate the capacity of demand-side explanations of economic growth and discriminate against supply-side explanations. For a fair test, data are required which measure private economic activity only. In this respect, factory production accounts are the best official source. An additional advantage of factory production data is that they are collected by direct survey, and not estimated on the basis of tax assessment statistics.

CHAPTER THREE

Factory production statistics

(a) General characteristics

Factory production is also used as the testing ground for a substantive examination of Marx's "economics" below. At this stage, all that is required is to introduce the categories and concepts in the Factory Production series; its scope and the weight of the activities covered in the New Zealand economy, etc.

Factory production statistics have been collected in New Zealand since 1867, the year Meissner published Volume 1 of Marx's Capital. Their collection became an annual event only from 1918-19 onwards. Although annual reports are available for the period 1918-1973, reasonably consistent data series can only be constructed for 47 years in two periods: 1923-1947 and 1949-1970.

To make the annual reports consistent, two sets of data must be excluded: (a) the operations of tramways, gasworks and electricity, and (b) the activity of dairy factory production (see Volume 2). To distinguish between the different stages in adjusting the data, the

term "factory production" is used to indicate non-adjusted figures; the term "manufacture" indicates that tramways, electricity and gas are excluded; the term "revised factory production" indicates that dairy factory production is also excluded.

Regulations authorising the factory production survey in the period covered define "factories" as establishments "engaged in the manufacture, repair or preparation of articles for wholesale or retail trade or for export, which employs at least two hands, or uses motive power, with the exception of the following, which are expressly excluded: Bakeries, butcheries, laundries, smithies, waterworks, shops engaged in retail trade only, and farmers or others using motive power for their own individual and private use. The following are, however, required to furnish the return even though employing less than two hands and not using motive power: tanneries; bacon, butter, cheese, soap, and candle factories; brickyards; and limeworks" [2].

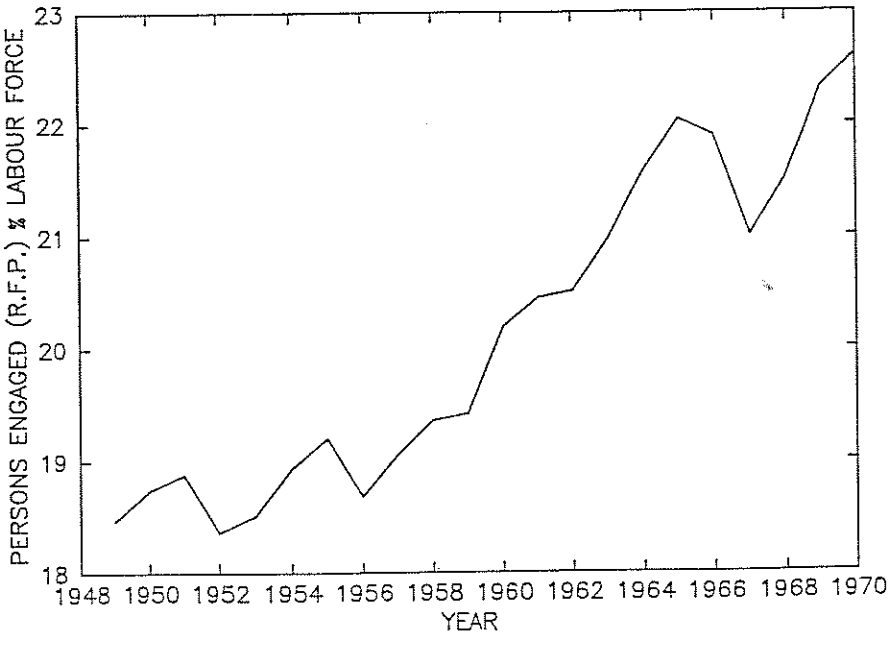
Factory production statistics do not, and are not intended to, cover all establishments registered as factories in New Zealand. "One-man" businesses, with the exception of tanneries, bacon factories etc., are excluded. Some small repair shops, such as jewellery

and watch repair, boot and shoe repair, and saddlery, are excluded even though they may employ more than two hands [3].

Whereas in 1947-48 some 19,102 factories, employing 162,802 "hands" were registered under the Factories Act, only 7,966 factories (engaging 140,267 persons) were covered in the statistics of factory production. That is to say, the statistics represented only 41.7% of registered factories but 86.2% of all persons engaged in registered factories. The activity of self-employed manufacturers thus falls largely outside the scope of factory production data [4].

Some idea of the relative weighting of the activities captured by the factory production statistics can be gained from Graphs 3:1 and 3:2.

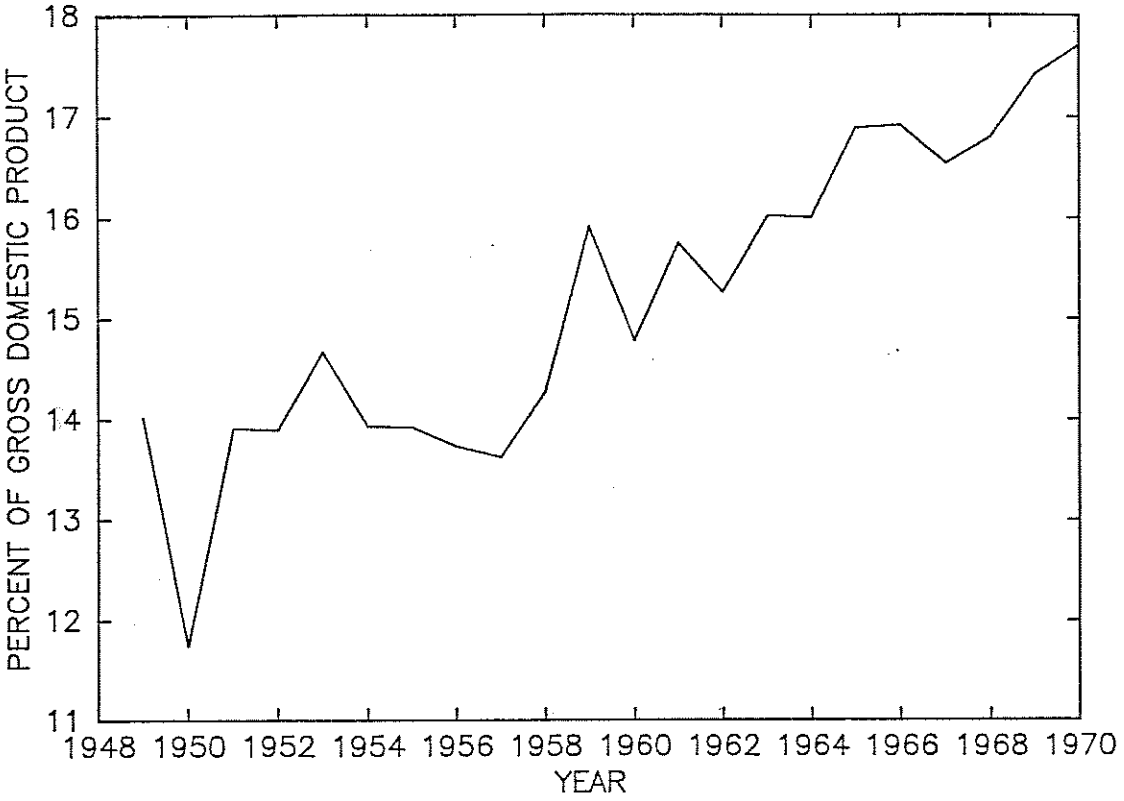
GRAPH 3:1 FRACTION OF LABOUR FORCE IN REVISED FACTORY PRODUCTION



Graph 3:1 reports "Persons Engaged" in revised factory production as a percentage of all persons economically active. Only the period from 1949 is reported because official statistics which report the annual economically active population are not available before that date. Since 1949, persons engaged in revised factory production never fall below 22.5% of the total economically active population in New Zealand. That is, persons engaged in revised factory production grows from a little under 1 in 5 to a little under 1 in 4. "Factory production", therefore, constitutes a significant sector of employment in New Zealand.

Another way the relative weight of "factory production" is assessed is by its "contribution" to national income. In the system of national accounting used in New Zealand, this "contribution" is determined by subtracting, from the value of the total product of the sector, the cost of raw materials and "other productive expenses". This remainder is referred to as "New Added Value". Roughly speaking, New Added Value equals the sum of gross incomes received as wages and salaries or as manufacturers' surplus [5].

GRAPH 3:2 CONTRIBUTION OF REVISED FACTORY PRDN. TO GDP



Graph 3:2 shows the contribution of revised factory production to national income by reporting "New Added Value" as a percentage of Gross Domestic Product. It shows that since 1949, around one in every eight dollars of national income arose in the production of goods and services in revised factory production.

Graph 3:1 shows that revised factory production is a considerable user of one scarce resource: labour. Graph 3:2 shows that revised factory production generates a considerable fraction of total national

income. The conclusion to be drawn from both graphs taken together is that revised factory production constitutes a significant proportion of total economic activity in New Zealand.

(b) The main classifications

The annual reports detail (a) the number of factories, their location and product type, (b) the number of "persons engaged" and the type of engagement, and (c) inputs and outputs in nominal prices. Considerable sundry information is also available: motive-power, consumption of coal, fixed capital assets, over-time and short-time worked, etc. Periodically reports include information concerning e.g. the value of manufacturers' stocks, the legal status of the production unit (ownership by individuals, private firms or partnerships, public or private registered companies, co-operatives and miscellaneous, municipal and government trading authorities) [6].

Factories (more precisely, establishments) are treated as separate entities independent of ownership. Because firms often own several factories, the number

of establishments exceeds the number of firms in the legal sense [7].

Persons Engaged includes all people who work in the factories: owners, managers, technicians, clerks and accountants, factory operatives etc. However, Persons Engaged does not generally include workers whose sole occupation is concerned with the distribution or sales of the product from factories [8].

Input prices are at cost to the enterprise and outputs equal the prices at which the commodities are sold (whether to final consumers or to wholesalers or retailers). Where companies own retail stores, or where a company controls more than one establishment and transfers the products of one to the other for further processing, the company concerned is required to submit a "commercial value" for its product [9] .

The basic input aggregates are (a) salary and wage payments, (b) costs of raw materials and (c) "other expenses" of production: energy, office equipment, telephone rentals etc. The basic output aggregates are (a) the total value of the product, (b) Added Value: the difference between the value of product and the

cost of raw materials, i.e., those materials which became physically part of, or were transformed directly into, the product, (c) New (or net) Value Added: added value minus other productive expenses (manufacturers' surpluses plus wages and salaries), (d) Net Output: New Added Value plus interest paid on borrowed capital [10].

These output aggregates are amalgams. They attempt to straddle both the income determination and output determination of levels of economic activity in single formulae. As mentioned earlier, there were many redefinitions of factory production. Items must be excluded from the data set for consistent series.

But data are not reported for Value Added, New Value Added or Net Output at the level of individual industries or industrial branches. For this reason, it is impossible to arrive at values for output aggregates for revised factory production series simply through successive subtractions of excluded items. All figures for Value Added, New Value Added and Net Output used in this thesis have been calculated in the tables of Appendix 5, using the principles of official accounting (Volume 2). To arrive at Net Output a considerable number of operations including making estimates for a

component item, interest paid on borrowed capital, for the years 1923-1929 have been necessary [12].

(c) The revised factory production curve

The output aggregates, Value Added etc., deal with the production of goods and incomes as well as the distribution of incomes. Value Added and allied concepts thus provide essentially the same analytical framework as the national income aggregates. Their superiority inheres in the fact that they are not skewed in favour of Keynesianism. For this reason, they provide a good testing ground for both the supply-led and demand-led economics.

The solid line in Graph 3:3 traces the evolution of Value Added in revised factory production for the period 1923-70. Because the 1948 annual factory production report was based on a partial survey, which means it is impossible to exclude items which if included make the series inconsistent, it has been necessary to delete 1948 from the series *. The dotted

---

* Values for 1948 are missing in all "Factory Production" data series used in this study. As far as these series are concerned, the period "1923-70" should strictly speaking be read "1923-47 and 1949-70" throughout the rest of the text.

line tracks the path that would have been followed had the expansion in Value Added been constant (4.88% annually) throughout the entire period.

After adjustment for inflation, annual output of Value Added in 1970 is 9.4 times that of 1923. Two distinct sub-periods are visible: the rate of expansion to 1953 is only around half the rate from that time. Annual output of Value Added trebles over the first thirty years (1923-1953 = 1: 2.998) and trebles again over the next 17 years (1953-70 = 1: 3.38).

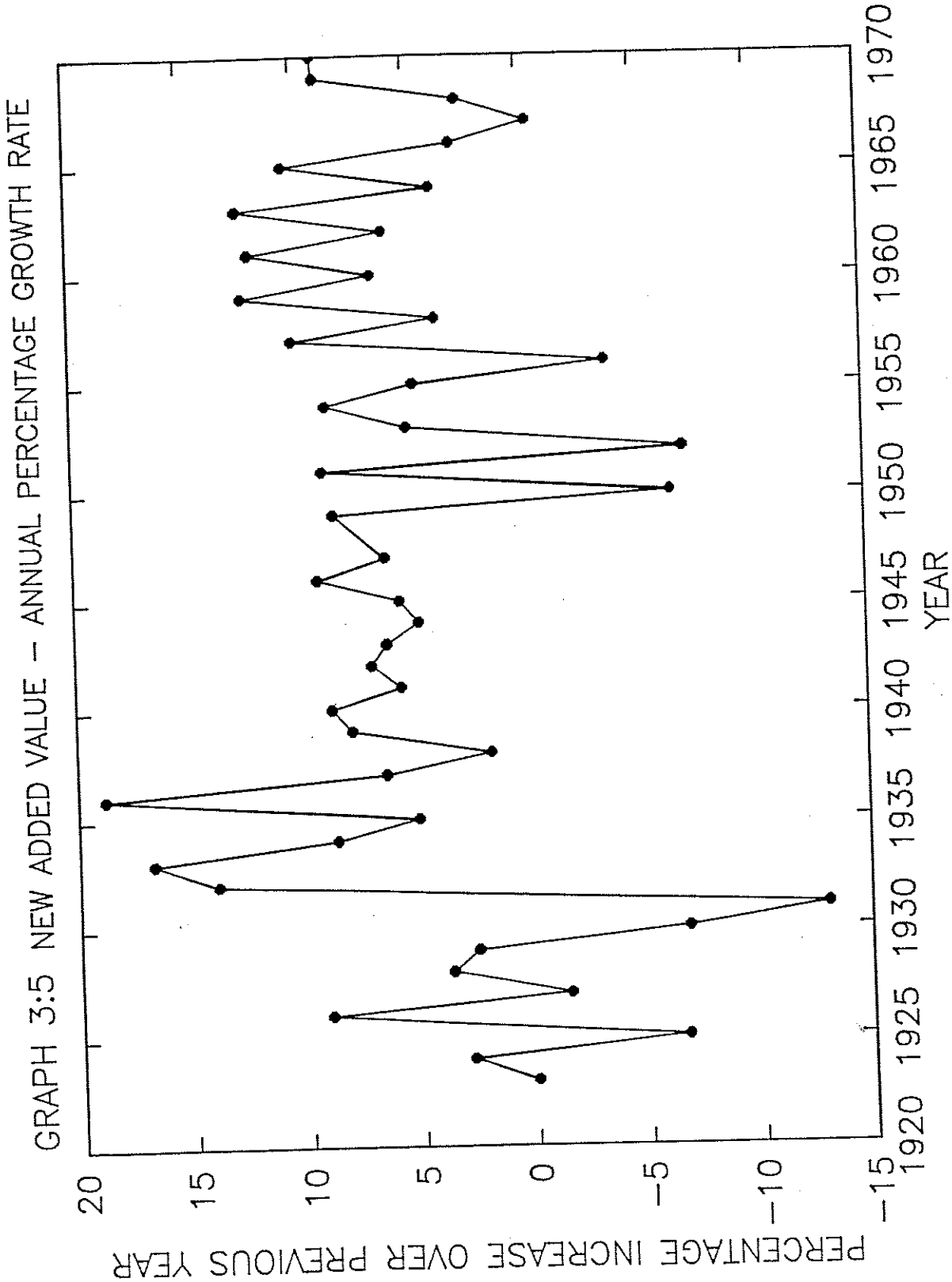
Unfortunately, Value Added is not good indicator of the level of economic activity. The concept encompasses value added to raw materials during manufacture. But the value of "other productive expenses" (fuels, office expenses, fixed asset depreciation and so on) consumed in the production process is added to the value of the raw materials. Thus any increase in the unit cost of fuel oils or electricity automatically increases "Value Added" even if the utilisation rate of the factors of production remains constant.

From the standpoint of measuring levels of economic activity, the flaw in the Added Value concept

is that it fails to distinguish satisfactorily between inputs (costs) and outputs (gains). To eliminate the flaw, the preserved value component must be excluded from output figures. To this end, economists developed the concept "New Added Value". New Added Value equals Added Value less the costs of the "other productive expenses". Graph 3:4 plots the curve of New Added Value in the series. The basic shape of the curve in Graph 3:4 is similar to the one in Graph 3:3. The overall expansion is slightly higher (1 : 9.88 in Graph 3:4 compared to 1 : 9.37 in Graph 3:3).

The difference in growth rates between the two sub-periods is less in 3:4 than was the case in Graph 3:3 (1923-53 = 1 : 3.4 as against 1 : 3.0; 1953-70 = 1 : 2.91 as against 1: 3.12) . Another significant difference is that whereas Graph 3:3 shows a sharp downturn in 1964, Graph 3:4 reports a sharp upturn in 1964. The two lines in Graph 3:4 come closer than in Graph 3:3 and overall they diverge less in 3:4 than in 3:3. This is especially noticeable for the years 1936 to 1949.

Graph 3:5 plots the annual rate of growth of New Added Value, in percentage terms, to illustrate the degree of oscillation in the data. Because relative


GRAPH 3:5 NEW ADDED VALUE - ANNUAL PERCENTAGE GROWTH RATE
PERCENTAGE INCREASE OVER PREVIOUS YEAR
20
15
10
5
0
−5
−10
−15
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
YEAR

growth is separated from absolute levels, Graph 3:5 is able to show clearly the short-run cycles in the data. Between 1927 and 1967, fourteen complete cycles can be identified: A: 1927-31 (5 years); B: 1931-35 (5 years); C: 1935-38 (4 years); D: 1938-41 (4 years); E: 1941-44 (4 years); F: 1944-47 (4 years); 1948 data are missing but G probably spans 1947-50 (4 years); H: 1950-52 (3 years); I: 1952-56 (5 years); J: 1956-58 (3 years); K: 1958-60 (3 years); L: 1960-62 (3 years); M: 1962-64 (3 years); N: 1964-67 (4 years).

As for national income data, the short-run cycles can be grouped in distinct epochs according to average growth rates. In Graph 3:5 negative growth (recession) is indicated wherever the lines fall below zero. By balancing expansion and recession against each other, the series can be broken into distinct sub-periods.

The first sub-period ends in 1932. Data are available for nine years and negative growth characterises four of them; growth through the nine years averaged 0.42%. A second sub-period, without recessions, spans seventeen years (1932-49); growth averaged 8.3%. During the third sub-period (1949-1957) negative growth was experienced in three of eight years; growth averaged 3.3%. During the remaining

fourteen years, between 1957 and 1970, only one recession occurred and growth averaged 7.2%. Whether all fourteen years belong to the same epoch, or whether 1967 marks the beginning of new one, cannot be determined from the data.

Value Added over-estimates the level of economic activity because, as noted, it contains an element of preserved value - other productive expenses. By contrast, New Added Value under-estimates this level because it fails to include all newly generated value. In the accounting system used, interest paid on borrowed capital is treated as an "other productive expense", i.e. entered as a debit and not a credit to revised factory production. Therefore one part of new output from current production is accounted for as if it was an element of preserved value.

To correct this error, economists developed a further category: "Net Output". Net Output includes wages and salaries paid in the sector, the total surplus received by manufacturers' in the sector and all interest paid from the sector, all inclusive of taxation. But even Net Output does not include all the income which arises in the production of goods and services in the sector. It does, for example, include

rent payments for the use of leased or rented assets [13].

Net Output appears in the annual reports of factory production from 1964. It is, however, possible to calculate Net Output values from official sources for the period 1930-63. Values for interest payments for the seven years to 1929 must be extrapolated. As well, it is necessary to estimate interest paid by dairy factories to 1954. Our Net Output series must therefore be used with some caution, especially for the years to 1930 [14].

The evolution of Net Output (revised factory production) is reported in Graph 3:6. The solid line tracks the actual curve; the dots trace the constant growth curve. Overall, the expansion of Net Output through the series is 1 : 10.34. This ratio exceeds that of either Value Added or New Value Added. The divergence of the solid from the dotted line for the years 1946-64 is considerably less in Graph 3:6 than in Graphs 3:3 or 3:4. As well, actual growth in 3:6 rises above the constant growth curve during three periods, 1947-49, 1951 and 1963-66.

A still more significant difference in the graphs

relates to the years 1949-57. The eight-year plateau in the growth curve shown in Graphs 3:3 and 3:4 is reduced to three years (1955-58) in Graph 3:6. Whereas 1949-1954 appeared as a period of sluggish growth of new incomes, the rate was in reality maintained; growth is disguised because it mostly wound up as additional income of owners of capital loaned to the sector. In other words, it corresponded to changes in the distribution of income, which altered in favour of financiers.

Graph 3:7 plots annual growth rates for Net Output (line) and New Value Added (dots). The deep recession of the 1930's is more pronounced in Net Output than it is in New Value Added, a low of -17.48% (-13.04%) in 1931. The upturn in 1932 was also greater in Net Output , (20.37%) than New Added Value (13.91%) . Both lines reveal eight recessions in the data (1925, 1927, 1930, 1931, 1950, 1952, 1956 and 1967). Going by New Added Value, five of these exceeded -5.0%, namely 1927, 1930, 1931, 1950 and 1952. Going by Net Output, we obtain only four such recessions; the downturn in 1950 measures only .83%. Where Net Output shows 42 upturns exceeding 5% (11 are over 10% and 3 are over 15%), New Added Value reports only 37 (8 are over 10% and 2 are over 15%).

The range of fluctuation is different, but the lines move in the same direction year by year except 1933. Disregarding 1946-49, a clear pattern emerges in Net Output during 1932-65 that is not obvious in New Added Value. If the troughs of 1934, 1952 and 1964 are connected by straight lines, a rough "V" shape emerges. All intermediate troughs, except 1938 (when the downturn of 1937 grew over into a recession), would end approximately at the point they intersect the line of the "V". Bearing this in mind, a general trend in development can be concluded: growth progresssively slows down through the period 1932-52 but accelerates through 1952-64.

The Net Output and New Added Value "curves" in Graph 3:8 have been fixed by plotting accumulated percentage growth to the particular interval in the series. The solid line tracks Net Output and the dots New Value Added. As discussed in chapter one, graphs which plot accumulated annual growth present a more accurate visual representation of real relationships in the data than do graphs which plot the absolute values from the annual reports.

The advantages in using Net Output instead of New

Added Value to indicate levels of economic activity become apparent when the two lines are compared in Graph 3:8. Firstly, Net Output reveals that the prolonged recession 1930-1931 was sharper than New Value Added would suggest, as was the post-recession recovery in 1936. Revised factory production activities in 1931 produced only around 79% of the Net Output they had generated in 1923.

Secondly, Net Output reveals that the economic slowdown from around 1945 to around 1958 was in fact considerably less sharp once incomes received as interest are taken into account. Equally significant in Graph 3:8 is that, from around 1958, New Added Value and Net Output gradually begin to converge again. This indicates another re-alignment in the the distribution of incomes from the sector. The share of income accruing to lenders relative to profits and wages is returning to its pre-war level.

To complete this stage of the analysis, Graph 3:9 tracks the accumulated annual growth curve of Net Output from revised factory production (dots) with the accumulated annual growth curve of war-adjusted National Income at Market Prices (line). Presenting the two curves together this way enables a comparison

between development in revised factory production and development of the economy as a whole.

Graph 3:9 shows that whereas the early part of the long depression was much deeper in revised factory production than for the economy as a whole, it was also much less prolonged there. By about 1936, revised factory production had grown around 50% faster than the total economy from the deepest point of the depression. From 1936 to around 1960, it developed only a little faster than the total economy, but its rate of progress shot ahead again in the 1960's. By 1970, its total growth exceeded that for national income by almost 100%.

Although the two lines diverge over time, most of the short-run cycles in national income data are reproduced in the revised factory production data. The most significant exception to this is that the sudden surge in activity registered in NIMP in the late 1940's does not register at all in the curve for Net Output from revised factory production. Unfortunately revised factory production data are not available for the period from 1973, when national income data reveals the current crisis in capitalist development in New Zealand.

To this point, two curves of actual economic development in New Zealand have been fixed. But to test the thesis that the independent variable in determining the shape of these curves is state intervention, it now becomes necessary to quantify state intervention.

The approach of the critics of state intervention to this problem is simple. They measure levels of state intervention by the proportion of national income flowing through all the various agencies of the state. But a simple ratio of state spending to national income does not differentiate productive economic activity of state agencies from the influence exerted when the state attempts to override market forces [15].

Regardless of whether state intervention is the cause of economic decline or the way out of the current crisis of capitalist development, the best place to measure its effects will obviously be at the point where state control historically was the greatest - i.e. the period in which state control over the allocation of the nation's economic resources was both more intensive and extensive than in any other period. Once this period is identified in the data, its curve of development, its prevailing pattern of income distribution and so on, can be compared and contrasted

with those during other periods. It ought then to be possible to assess the validity of the two sets of theory. But that does not solve the problem of how to map changes in levels of state intervention. The "intervention curve" needs to summarise both qualitative and quantitative change in a single line.

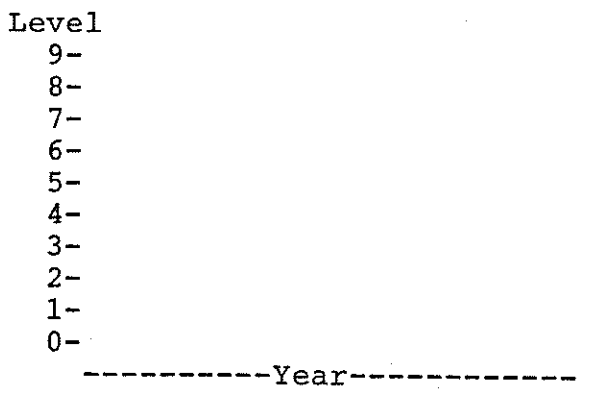
The quantitative dimension is the breadth of state involvement or the number of factors of production (land, capital and labour) subject to intervention. The qualitative dimension is the severity of the intervention. Here "direct" and "indirect" state intervention must be distinguished. Direct intervention occurs when the state attempts to manage the economy through direct control of the allocation of economic resources. Indirect intervention refers to management by "fine tuning" techniques (price restraint, tariffs, taxation and subsidies, etc.) to redirect the flow of resources.

These distinctions enable us to construct a ten-point scale of interventionism ranking its actual historical levels. On this scale, 0 = no intervention; 1 = indirect control of a single factor of production; 2 and 3 = indirect control of respectively two or three factors; 4 = direct control of one factor; 5 =

one factor under direct and one under indirect control; 6 = one factor under direct and two factors under indirect control; 7 = two factors under direct control; 8 = two factors under direct and one under indirect control; and 9 = all three factors of production under direct state control.

In theory, this scale makes it possible to construct a curve summarising changes in the net weighting of state intervention, as in Figure 3:1.

FIGURE 3:1 Scaling State Intervention.



Once the curve has been fixed, the bourgeois theories of economic growth can be tested by comparing this curve with those fixed previously for economic development. Admittedly our curve of interventionism may be misleading to some some extent.
For example, the overall effect of indirect control over three factors of production may outweigh the

effect of a single factor under direct control. Here, as elsewhere, the problems cannot be solved a priori; results have to be established in particular contexts. Our procedure aims only at a rough approximation; should it turn out to produce misleading results, it can be adjusted easily.

State Intervention in New Zealand

The problem of quantification solved within the stated limits, the task is to demarcate historical epochs in New Zealand's political-economic development according to the extent and intensity of state intervention. A periodisation must be established for each factor of production.

Unfortunately the record of over one century of state involvement in the New Zealand economy still awaits systematic historiographical treatment. Beyond some partial and episodic analyses, it is available only in the form of a maze of particular Acts of Parliament, regulations and their subsequent amendments, of which there are an immense number [16]. To help guide us through, a brief overview is therefore indispensable.

CHAPTER THREE

The first period of major state involvement in New Zealand's economy - the 1870's and 1880's - is beyond the scope of our data base. During a long depression, 1870-94, the Government embarked on a programme of public works financed by off-shore loans. Its major result was the development of means of communication and transportation; the Public Trust Office and the Government Life Insurance Department were also established [17].

The scale of involvement during the epoch is captured in the following contemporary observation:

> In the four years from 1873-7, 907 miles of railway were completed; in the ten years following, 701 miles were built; in the next ten years 304 miles and in the ten years ending March 3, 1908, only 416 miles were completed, not because the colony had all the needed railways, nor because none of the projected lines was likely to pay, but chiefly because of the inability of the Government to borrow adequate sums, and this may be traced chiefly to the unprofitable character of the lines already built [18].

At the end of the depression, the liberals replaced the conservatives in Government. The economy grew without stimulation from the state during "twenty-six years of prosperity from 1895 to 1921" with the partial exception of 1909-10 [19]. Nevertheless, the Liberals enacted in 1894 the Industrial Conciliation and Arbitration Act, which has proved to be the most

durable piece of interventionism in New Zealand history. From 1894, free wage bargaining between bosses and workers were constrained within the legal framework of the Act [20].

During this long wave of accelerated growth, Vogel's "borrow and hope" policies of the 1870's and 1880's were deeply resented because their legacy was a high level of national debt - consequently also taxation rates which were high compared to other countries. Most tax was collected in the form of customs and excise duties (levies on luxury goods, gambling, alcohol, public entertainment, etc.). Additional revenue was collected through the Land Tax; high income earners were subject to an income tax. Another result of the Vogel administration was the construction of a infrastructure co-ordinating all the provincial, regional and local markets into a national domestic economy [21].

Processing agrarian product was the foundation for New Zealand's early manufacturing industry. The economy was a complex network of interrelations. From its beginning, capitalism in New Zealand developed around the provision of food for British and Australian workers. Farmers created the raw materials, which were

re-created as commodities for foreign markets by workers in capitalist industry [22]. Around the basic rural-urban nexus, further sectors emerged: a transport sector to shift raw materials from farms to factories, and finished product to Europe; a financial sector to bridge the considerable time-lapse between the point at which costs of production were incurred and the point costs were recovered in European markets. During this period, the most powerful economic actors were the merchants who controlled the import-export trade [23].

Industrial production gradually expanded, to provide workers with non-food goods (clothing, housing, furnishings etc.) and to service agricultural and industrial machinery. The small size of the domestic market militated against the development of a capital goods sector. In reality, New Zealand was little more than a remote outpost of the British economy; economic development was always uneven. In many ways, this unevenness allowed initially for a relatively harmonious evolution, interrupted mainly by fluctuations in demand for exports - basically by employment levels in Britain [24].

Clearly defined sets of interests and people with contradictory projects emerged first in the division

between the countryside and the towns. The separation hardened during the First World War. The government financed its contribution to the imperialist war from income tax. At this time, ordinary workers paid no income tax, because their annual income was below the $600 minimum liable for tax assessment. Farmers paid Land Tax as a fixed sum per acre of land. As a result, when the War raised wool, meat and dairy prices, and raised profits for farmers, the increased profit was free from tax. Farmers were furthermore exempted from war service [25]. So when the income tax-take was increased to pay for the war, this extra cost fell mainly on companies and firms.

Higher taxation and higher costs for raw materials squeezed company incomes. To avoid falling company profits, firms raised prices squeezing consumers, the vast majority of whom were wage and salary earners. This situation was bound to trigger a reaction from urban New Zealanders. After all, these were the people who paid for the war, but received none of its benefits. They were victims of a taxation system evolved in the 19th century, during the period when state power had been the private preserve of large land holders [26].

CHAPTER THREE

Refrigerated shipping and the roading and rail infrastructure had facilitated the emergence of a class of small (mainly meat and dairy) farmers. But the extension of the franchise and the slow but steady expansion of industry meant that by 1915 urban dwellers had gradually accumulated enough political clout to stand up to their "country cousins" [27]. In 1916, the unions and urban workers finally created the Labour Party [28]. The reluctant state was increasingly forced to regulate prices [29]. Eventually price control for essential commodities was resorted to for the duration of the war.

In the preamble to these price control regulations, reference is made to "the necessity for purchasing at reasonable prices commodities required for war purposes, and the protection of the consumer from the full force of the abnormal rises in prices caused by the scarcity of many necessary commodities" [30]. Price controls introduced during the First World War in some areas continued well into the post-war era. Wheat, flour, bread and superphosphates, and a few other goods were price controlled without intermission beyond the Second World War [31].

In the early 1920's, export prices fell in

response to the depression in Europe. Falling export prices had important immediate effects. To maintain rates of profit, exporters (those who owned factories processing farm product) forced lower prices back onto the farmers and lower wages onto the workers. The domestic demand for wage goods and farm implements etc., fell. The urban political alliance broke up and - at least initially - farmers were atomised. For more than thirty years from 1919, New Zealand politics, the rise and fall of political parties, etc., was dominated by attempts to construct stable alliances with the small farmers [32].

At the end of the World War I, large overseas loans were floated to finance the resettlement of returned soldiers onto farms. Land prices rose as a result and, despite the fact that prices for farm product were falling, land speculation was rife for a whole period. But as the fall of export prices persisted in the 1920's, high land prices made these farms unprofitable: "Some land went out of cultivation, much more was inadequately worked for lack of capital, there were widespread defaults on interest payments and foreclosures of mortgages" [33].

The first response of the state to the 1920's

depression was Vogelist: borrow abroad to spend at home. The ability to pursue the public works programme to combat economic decline was limited however. In the first place, the longer the depression wore on, the harder it became to borrow the necessary funds... in part due to the already high per capita national debt inherited from Vogel's experiments. But just as crucial was local opposition from the urban investors. Whereas the workers demanded relief schemes, the bosses denied their utility, arguing that they would intensify the depression. On their own, neither bosses nor workers could realise their class projects. All hinged on the capacity to win over the small farmers [34].

While the depression tended to fracture political alliances, it also promoted the growth of the Labour Party [35]. In turn, this restored some measure of unity in the ranks of property owners. From the mid-1920's, falling farm incomes induced the farmers' leaders to demand the abolition of compulsory arbitration in fixing wages and working conditions; the aim being to bring down statutory minimum wages. The Employers' Federation agreed with the farmers, in conformity with a constant in New Zealand's political history: whenever there is unemployment, workers seek the protection of the IC&A Act and bosses want to get

rid of arbitration. But whenever a situation of "over-full employment" pertains, bosses want the IC&A Act invoked and workers want to get rid of arbitration.

Through the 1920's, various parties sought power and attempted to govern on behalf of both farmers and employers. But these parties had to orient themselves to the growth of the Labour Party. In each government, the representatives of farmers were numerically predominant. But in each successive government, more farmers' representatives took back-bench seats in parliament. In the 1928 Coalition government, a minority of businessmen controlled party policy while bank bench members represented poverty-stricken dairy farmers [36]. But the "No Government in Business" strategy was also impotent in the economic circumstances [37]. State economic intervention in the mid-1920's amounted to little more than the postponement of farm mortgage payments, remission of interest owing on farm mortgages and wage-cuts for state employees [38].

With the slide into recession from 1929, the Coalition Government was forced to take stronger measures.

> Unemployment became concentrated in the towns, and there was pressure on wage-levels and increasing need for poor relief. Immigration was restricted, and the arbitration system, by which wages were maintained, was caught between economic stringency and high living costs. At the depth of the depression, in the early 'thirties, there was a greater mass of unemployment and more suffering than New Zealand had known for half a century. At times this found vent in demonstrations which approached riot. Ugly scenes of violence occurred, and it became apparent that new solutions must be sought for the prevailing economic disorganisation [39].

In 1933, the currency was devalued by 20 percent and attempts were made to restart public works. But the six trading banks refused to supply additional finance to the Government. To free the Government from the clutches of the private bankers and exert some control over them, the Reserve Bank was established in the same year. Coates, Minister of Finance, had the gold reserves of the commercial banks transferred to the Reserve Bank [40].

In 1934, a committee of economists was set up to make economic policy recommendations, heralding the start to a new era of state intervention. Its recommendations included compulsory reduction "of all interest rates and rent to correspond, roughly, with the fall in wages and prices; of the Government and local body debt owing in New Zealand to a lower rate of

interest; and of mortgages to a level that farmers could pay" [41]. Coates was the engineer of the 1934 Agricultural (Emergency Powers) Act which gave the Government powers to plan and control agriculture and marketing, and the architect of legislative proposals for housing and health schemes, national superannuation and the planned development of manufacturing.

But Coates' initiatives split the alliance of bosses and farmers. The bosses responded with capital flight to Australia and the biggest bosses formed a new party - the Democrat Party - to campaign against the reforms [42]. At the same time, the growing numerical strength of the Labour Party was accompanied by the steady recession of the socialist vision. More and more concessions to the national electorate meant gradual submission to economic nationalism. This trend was already obvious in 1928 election manifesto [43].

In 1935, the Labour Party rode to power on the back of an alliance between workers and small farmers (mainly dairy farmers). The support of small farmers was won mainly through the promise of guaranteed export prices. The main slogan was "anti-profiteering", the alliance was anti-imperialist, and was marked by

hostility against finance (merchant) capital, primarily foreign capital. The First Labour Government was a workers and farmers government opposed to monopoly capital. For all the radical socialist rhetoric in the party constitution, such as "socialisation of the means of production", the main results of the 1935-49 Labour administration were the rigorous and comprehensive implementation of Coates' reforms. The main philosophical difference between the approach of Coates and that of the Labour Party to welfarism was that Coates wanted the wealthy excluded from state hand-outs whereas the Labour Party opted for universal welfare provisions [44].

Rosenberg states that the Labour leaders "had probably never read, some possibly never heard of, John Maynard Keynes, whose works were starting to influence European minds at that time"; essentially they "worked pragmatically, without reliance on any theory - except that credit must be owned and controlled by the Government, that public finance should be used to create work, and 'prime the pump' of activity and, above all, that Government was to be Government for the people, putting private enterprise aside where it was unable to deliver the goods" [45].

The Labour policies were based on credit expansion and increased Government spending. But the response of the bosses to the initial interventions (capital flight, investment strike, etc.) required further intervention to regulate their behaviour. Each step forwards on the interventionist road forced another [46]. Eventually, as it became clear that wage and salary earners could be made to fund the welfare state, employers came to accept it. That wage and salary earners did increasingly foot the bill for a burgeoning state bureaucracy can be demonstrated using official statistics [47].

Graph 3:10 reports the fraction of the total tax take collected as income tax. Until 1915, income tax accounted for less than 10 percent of total tax. As noted earlier, income tax rates were increased to fund the war effort. From the end of World War I to the victory of the First Labour Government, income tax fell back to under 15%. From 1935, income tax has increased until, in the mid-1960s, it becomes the major source of tax revenue; at the end of the period, income tax contributes about three-quarters to total tax revenue.

In the period of the first Labour Government, the share of income tax rose from about 14% to almost 40%,

Apart from the massive increase in the mid-1960s, National Party Governments have held or even reduced the share of total tax collected as income tax. By contrast, each of the first three Labour Governments (1935-49; 1957-60; 1972-75) shifted the tax burden onto incomes (as noted previously, the Fourth Labour Government has opted to shift it onto consumers).

Graph 3:10 shows the tremendous shift of the tax burden towards incomes. But Graph 3:11 shows an equally striking shift. In 1923, individuals paid about one-third of total income tax. By the end of the 1970s, individuals paid about 85% of total income tax. Under the First Labour Government, the share of company income tax fell about 10%. Under the Second Labour Government, it fell almost 30%, and again about 10% under the Third. By contrast, during the First National Government, the share of income tax paid by companies rose, and in the 12 years of the Second National Government it fell only 5%.

To fully assess the result of tax changes, it is necessary to relate income tax to state revenue. Graph 3:12 shows total taxation as a fraction of state revenue. For the whole period to the World War I, taxation contributed around half of state revenue.

During the period of the war, it rose to more than 60 percent; by 1931, it exceeded 80%. In the long recession, it fell back to 70%. Under the First Labour Government, it climbed to over 85%. With the exception of the war period and 1979, it has oscillated around the 85% mark since then. Thus two plateaus appear in the history of the financing of the state, linked by the inter-war period as a transitional phase. When the state controls all economic levers, the contribution of taxation to state revenue is more than 50% higher than when the market reigns supreme.

Taxation data reveal a three-fold movement. The share of income tax paid by wage and salary earners; the share of income tax in total tax; the share of taxation in state revenue before borrowing - each shows a dramatic rise with the advent of the interventionist state. The conclusion lies to hand: wage and salary earners not only paid for welfarism but the running costs of the state apparatus were also shifted from the farmers and captains of industry to them. In this light, the lack of opposition by private investors to state management of the economy from the end of World War II to the early 1970's is understandable.

Between 1935 and 1947, red tape and bureaucratic

controls proliferated to the point where not only factor incomes but even the movement of investment capital, labour and rental property were all being directly determined by the state. That the outbreak of a new World War contributed to the state-regulated economy should not be allowed to obscure the fact that the scaffolding had already been put in place by 1938 (see below).

The electoral success of the Labour Party forced the rival Reform and United parties to a merger in 1936. The stated objectives of the newly formed National Party were:

> To promote good citizenship and self-reliance; to combat communism and socialism; to promote freedom of contract; to encourage private enterprise; to safeguard individual rights and the privilege of ownership; to oppose interference of the state in business and state control of industry [48].

But just as the flag of socialist rhetoric flew only over a so-called mixed economy when Labour acceded to power, National's reign during the best part of the long boom was founded on acceptance of welfarism and state economic management.

In the 1940's the National Party steadily regained the support of the farmers [49]. In good part this

realignment occurred because, when the Labour Government restored the viability of farming, it made farmers men of property again. The worker-farmer alliance was finally broken in the late 1940s. Despite gerrymandering and the abolition of the Country Quota in 1945, National won the election in 1949 [50].

The Korean War pushed up farm product prices (especially wool) well beyond guaranteed minimum prices. As well, at the end of the war, there was a great wave of industrial disputes as workers' fought for better wages and conditions. The most protracted struggles took place in the transport industry, culminating in the 151-day waterfront lock-out [51]. For farmers, the benefit of high farm prices during the Korean War depended on getting farm product to foreign markets before the War ended. Farmers' support to the shipping companies, urban employers and the National Party was the logical expression of self-interest in the situation [52].

Faith in the capacity of the mixed economy to produce permanent economic growth remained widespread until the early 1980s. Of course, the economy did not always grow. But adverse conditions were interpreted as the product of particular acts of mismanagement [53].

During the sharp recession of 1967, for example, Minister of Finance Muldoon argued that he could restore economic growth with a little "fine-tuning" [54]. For a brief period, it looked as if he might be right. But unemployment did not disappear; the Labour Party won the 1972 election.

To combat unemployment, the incoming Labour Government resorted to a variation on the Vogelist policy of "borrow abroad and hope". It attempted to resuscitate the economy through demand-led growth. "Fine-tuning" was rejected on the ground that it did not generate sufficient aggregate demand; additional spending power was pumped into the economy through social welfare bureaucracies. Capital works programmes in education, health, housing and social welfare were embarked on; ambitious social policy and export incentive schemes were put in place [55]. By the end of Labour's term wages, prices and profits had been frozen. State interventionism was once again on the rise.

In 1975, Muldoon led the National Party back to power by raising the spectre of Communist-dominated unions, and decrying the soaring levels of national indebtedness and inflation. Labour's spending, so the

argument went, had misallocated resources: too much emphasis had been placed on welfare and too little on productive investment. Muldoon was portrayed as the "economic wizard" who would perform an "economic miracle" and redress the balance. The strategy evolved through "economic restructuring" to "Think Big" [56].

Economic resuscitation was to be accomplished through export-led growth and increased self-sufficiency in fuels and fertilisers. Restructuring involved, on the one hand, a sinking-lid policy in public sector employment and expenditure; on the other, targeted sectors of the New Zealand economy were to be opened to competition through relaxation of import tariffs. "Think Big" marked a return to undiluted Vogelism: direct state investment in productive activity to promote growth. Huge sums were borrowed off-shore to develop the infrastructure of the economy, to reduce input costs in the private sector [57]. The longer-term goal was to offer lower energy costs as incentives to foreign investors. But Muldoonism meant progressively intensified state regulation of economic activity. By 1982, wages, rents and prices were frozen again [58].

By 1984, at the end of the period covered by our

data, a remarkable political inversion had taken place. The Labour Party socialists had come to power in 1935 promising to manage the economy back to prosperity, "putting private enterprise aside where it was unable to deliver the goods" [59]. At the time, they were opposed by National Party economic liberals. But the lead-up to the 1984 election witnessed self-styled Labour Party socialists attacking self-styled National Party liberals for "over-regulating" the economy and stifling private initiative. National's campaign in defense of the necessity for interventionism - not only to achieve long-term growth but also to keep the "greedies" (Muldoon's term) in check - marked the completion of the role-reversal.

Just as the captains of industry abandoned Coates's "interventionist" Coalition in 1933 to form a party of their own, in 1984 they deserted National to form their own anti-interventionist party -the New Zealand Party [60]. On both occasions, the new parties contributed significantly to Labour's victory at the polls. But whereas in 1935 the result was a ruling coalition against profiteering, in 1984 it produced a regime seeking to maximise profiteering at the expense of the ordinary wage and salary earners.

The final irony is that while the First Labour Government won office with the promise of guaranteed minimum prices for farmers, the National Party was defeated in good part because it spent billions of dollars resuscitating them from the mid-1970s (Supplementary Minimum Prices scheme). National, of course, won the support of the "rural rump". But whereas farmers comprised about 23% of the workforce in 1937, this figure in the intervening period had been halved to 11.6%. Labour's guaranteed prices enabled the farmers to enrich themselves; National's SMPs pushed up land prices. When the Fourth Labour Government abolished SMPs as a misallocation of scarce resources, many farmers were unable to service their mortgages and debts. The First Labour Government had made poor farmers rich; the Fourth made them poor again.

One of the best general indicators of the extent of interventionism is the ratio of total Central Government taxation to national income. Graph 3:13 shows total taxation as a percentage of Gross National Product for the 1938-83 period. The obvious long-term trend is that, over time, New Zealanders have rendered more of their income to the state as tax. The fraction has risen from just over one-fifth to a little under one-third of GNP. It should be remembered however that,

prior to 1938, most wage and salary earners did not earn any tax assessable income. By 1983, most of the average wage was taxed at 30 cents in the dollar. It must be concluded that the increase in tax liability must have been considerably less for individuals and companies paying 22 cents in the dollar in 1938.

The legal-political framework of interventionism

Capitalist development totally unfettered by any state regulation has never taken place. The precondition for a genuinely unregulated capitalism would be the absence of the state. As all states must be funded, intervention in markets is unavoidable just to obtain state revenue. It follows that the distinction between free trade and interventionism is a relative one: the differences are quantitative, not qualitative.

To fix the curve of market regulation, some interventions must be treated as constant, i.e. as if part of the natural environment. What should properly be regarded as "normal" or "natural" is a topic for controversy in itself. To avoid plunging in interminable debate here, the level of interventionism applying in 1920 is taken as base line (on the scale,

1920 = 0). It could be argued that this convention is entirely arbitrary, and that other base lines would yield very different results.

But that is true of any index. If it should turn out that 1920 is not a good starting-point, it is a simple matter to link this index to another with a different base line. All that is required is to determine the discrepancy between the absolute levels of interventionism identified. A large positive discrepancy would mean the range of oscillation in the curve of interventionism fixed below is exaggerated, and vice versa.

Having dealt with conceptual and historical issues, the task is to fix the curve of interventionism. Relevant Acts and Regulations must be fitted to the ten-point scale along two dimensions: types of control (direct or price control) and factor incomes (rents, wages, profits). These dimensions will be treated separately.

(a) General legislation controlling prices

As noted earlier, nation-wide control of prices of essential commodities was resorted to during World War

I. In the case of basic foodstuffs, the controls were continued into the post-war period. Price control of building materials was resorted to in 1920-21, during a period of acute shortage of materials. In 1923, the Board of Trade was abolished, and its functions taken over by the Minister, the latter whom retained the right to prevent profiteering [61].

In 1936, the Labour Government passed the Prevention of Profiteering Act, prohibiting "unreasonable increases in prices charged for goods and services" [62]. The Act was reinforced in June 1939 by a Price Investigation Tribunal. Price increases were restricted without prior application to the tribunal [63] . In 1939, pursuant to a Proclamation of Emergency invoked using the Public Safety Conservation Act, regulations were laid down to "stabilise" prices. Authorisation from the Minister of Industries and Commerce, was required before prices could be raised above those ruling on September 1, 1939 (the hoarding of goods was prohibited in a separate clause) [64].

These regulations were superseded in December 1939 by the Control of Prices Emergency Regulations [65]. An Economic Stabilisation Conference was convened (October 1940) to recommend how prices, wages and costs should

be stabilised [66]. From September, 1941 stabilisation affected the retail prices clothing, foodstuffs, fares, fuel, lighting and other basic commodities [67]. Steps were taken in December 1942 to ensure retail price levels would not exceed those ruling in that month. Additional steps were taken to stabilise weekly rents and wage rates, etc [68]. All these provisions were embodied in the Economic Stabilisation Regulation (1942) when the Economic Stabilisation Commission was convened [69]. Maximum retail prices were set in 1943 for seasonal foodstuffs: vegetables, apples, pears, and certain other fruits [70].

The Control of Prices Act was amended in 1947, to give legislative recognition to the principle of permanent price control. The duties of the Price Tribunal were redefined as follows: "fixing of prices for all goods and services, investigation of complaints in respect of prices, maintenance of a survey of prices for goods and services, institution of legal proceedings for offences in relation to prices, and taking of other steps as in its opinion might be necessary to prevent profiteering or the exploitation of the public" [71].

The myriad of interventionist regulations was

consolidated by a single piece of legislation in the Economic Stabilisation Act 1948, the aim of which was "the promotion of the economic stability of New Zealand" [72]. The Economic Stabilisation Commission, originally an emergency measure, briefly acquired permanent status. Producer subsidies were extended because "it was important to prevent the adverse effect which rising prices would have on production and to give incentives in certain cases. Secondly, it was desirable to maintain the prices of essential goods within the reach of all consumers and to ensure an equitable system of distribution." [73].

Despite the "permanent" status assigned to price controls in 1948, prices were in fact progressively decontrolled from that year. In the light of the second reason given for maintaining price control, the order in which prices were decontrolled makes the Labour Government's pronouncements appear cynical. Fruit and vegetables (excepting potatoes, apples, pears, walnuts and imported fruit and nuts) were released from price control from November 1948 [74]; meat prices were decontrolled during certain months of the year on 13 January 1949 [75]; in 1948, the Amended Tenancy Act replaced the Fair Rents Act, and "hardship" on the part of the landlord was to be taken into

consideration in setting "fair rents" [76].

Lists of items free of "direct price fixation (although remaining subject to profiteering and other provisions of the Act) were to be published from time to time, but all goods and services not specifically exempted in this manner were subject to control" [77]. With the gazetting of the Control of Prices (Positive List) Notice, 14 March 1955, the system of general control with specified exemptions was replaced by a system of general freedom and specific control. This system, known as the Price Justification Scheme (PJS), remained in force to 1972 though the items on the Positive list declined steadily overtime [78].

In 1958, the Second Labour Government passed the Trade Practices Act establishing a Trades Practices and Prices Commission. Its function was to investigate "trade practices" - i.e. trading agreements between firms to maintain prices (limitation of sales outlets, zoning, "ring tendering", and so on). Where an investigation determined such a practice contrary to public interest it could order their amendment, discontinuance or prohibit their repetition [79].

In April 1972, PJS was abolished in favour of a

new system of price control. Prices for some goods and services (Category A) were subject to direct control while others (Category B) were subject to price restraint. Category A was an augmented Positive List and prices for these items could only be increased by the Price Tribunal, under "criteria strictly defined in the regulations". Though not subject to direct price control, the prices of Category B items could be raised only to recover "actual costs determined in accordance with criteria laid down" [80].

Price control was extended from 22 March 1973; retail prices for meats, fish and some vegetables were frozen to April 1974 and government subsidies were used to hold them at that level. The Maximum Retail Price (MRP) system was established, at first for a few manufactured goods (foodstuffs, footwear and clothing) but eventually for the whole range of goods normally sold in supermarkets [80]. The Stabilisation of Prices Regulations 1973 consolidated control measures taken since 1972 into a single piece of legislation [81].

By 1974, "firm and wide-ranging price regulations, covering manufacturers' prices, distributive margins and service charges" were in place. As well, maximum profit ceiling provisions of the Regulations required

traders to ensure they did not exceed their maximum profit ceiling in any year. The maximum profit ceiling was defined as the average percentage of profit to sales achieved during the last four years immediately preceding July 1974. Where traders obtained excess profits, they were required to liquidate it either through reducing prices or absorbing cost increases [82].

The Price Freeze Regulations 1976 came into force on 18 August and expired 14 May 1977. During this period, with certain exemptions, prices ruling on 17 August 1976 could not be increased before 1 January 1977. On 6 April 1979, the Price Surveillance Regulations (PSR) replaced the Stabilisation of Prices Regulations Act 1974. PSR required every trader to retain records of price increases and allowed the Secretary of Trade and Industry to investigate prices of any goods and services. Under PSR manufacturers, importers, wholesalers, and retailers whose turnovers exceeded certain set levels were required to supply half-yearly returns to the Secretary of Trade and Industry detailing turnover and gross profit earned in that period [83].

On 22 June 1982, the Government imposed a wage,

price and rent freeze. Under these regulations, goods or services could not be sold above the price ruling in June 1982 [84]. The Rent Freeze Regulations were amended as from 13 June 1983 to allow rent increases under certain circumstances. The rent freeze was terminated on 13 February 1984 [85]. Wages were frozen under the Wage Freeze Regulations 1982. Though the wage freeze was initially intended to last one year, it was extended by 8 months to February 29 1984. At that date, the decision was taken to continue the wage freeze indefinitely [86].

(b) Legislation specifically related to income from wages

The role of the IC&A Act and the Arbitration Courts in setting minimum award wages was discussed previously. In 1931, public service wages and salaries were cut by first by 10%, and again by between 5% and 12.5%. On 21 May 1931, the Arbitration Court issued a General Order reducing all rates, awards and agreements by 10%. On 27 April 1932, the IC&A Act was radically amended [87]. The jurisdiction of the Court, except where both employers and workers agreed to refer to it, was removed. Between April 1932 and June 1934, 96 industrial awards and agreements were cancelled through

the failure of parties to arrive at such agreement. In a number of cases, national awards were cancelled and replaced by industrial agreements in particular districts. Trade union membership dropped from 102,600 in 1929 to 71,900 in 1933 [88].

The IC&A Amendment Act of 1936 restored compulsory arbitration in all industries where trade unions were registered under the Act. With the consent of the Minister, any union could be registered subject to the provisos that they must operate in at least four industrial districts, and that all registered unions in the same industrial district (or a majority of their members) must concur in the formation of a national union. Compulsory unionism was also introduced in a clause making it unlawful to employ any adult not a member of an industrial union bound by the award or agreement [89].

The amending Act of 1936 enabled the formation of the Federation of Labour in 1937, giving the FOL security of revenue and financial stability. The 1936 Amendment required the Court to fix maximum hours exclusive of overtime at not more than 40 per week, "unless, in the opinion of the Court, it would be impracticable to carry on any industry on a 40-hour

week basis. Finally, a basic minimum wage was set. The basic rate of wages for adult male workers were to be fixed "at such a rate as would, in the opinion of the Court, be sufficient to enable a man in receipt thereof to maintain a wife and three children in a fair and reasonable standard of comfort" [90].

In 1939, the Rates of Wages Emergency Regulations (1940) (RWER) were passed; the Arbitration Court from time to time, on application of any industrial union, or association of workers, could amend by general order the provisions for all industrial awards and agreements [91]. In addition, the Strike and Lock-out Emergency Regulations were enacted. The definition of strikes and lock-outs was enlarged to cover any concerted action to reduce normal output. Go-slows or refusals to work extended hours were brought within the definition of a strike; a refusal to engage workers under conditions which would affect output came within the definition of a lock-out. The Minister of Labour was empowered to appoint an Emergency Disputes Committee for any dispute causing a stoppage of work or which, in his opinion, was likely to cause a stoppage. The Strike and Lockout Regulations were amended in 1942 and revoked only in 1951. They were used fairly extensively (8 cases in 1941, 4 in 1942, and on average 3 to 4

instances per year to 1951). When revoked, the enlarged definition of strikes and lock-outs was then consolidated into the IC&A Act itself [92].

In 1942, RWER was superseded by the Economic Stabilisation Emergency Regulations (ESER); wages and remuneration were stabilised at the levels ruling on 15 November 1942. A special price index recorded, from 15 December 1942, changes in the prices of such commodities and services (including rents) as the Minister of Industries and Commerce might direct. In the event of price rises, amounting to 2.5% (later 5%) in prices as measured by the Wartime Index, the Arbitration Court was "enjoined to issue a General Order adjusting rates of remuneration by an amount equivalent to the variation disclosed by the index" [93].

In February 1945, an amendment to ESER empowered the Court to alter existing awards and agreements, "to adjust disparities in wage levels" and decree standard wage rates for skilled, semi-skilled and unskilled workers [94]. From June 1945, a further amendment to ESER required the Court to take into account economic and financial conditions affecting trade and industry; fluctuations in the cost of living as indicated by the

Wartime Price Index; increase or reduction in remuneration since December 15th 1942, and "any other consideration the Court deems relevant" before issuing a General Wage Order (GWO) [95].

The Emergency Regulations were revoked in 1949, whence the Court was required to consider before issuing a GWO the general purpose of wage regulations; fluctuations in retail prices as shown in "any index published by the Government Statistician"; economic conditions affecting finance, trade and industry; relative movements in incomes of different sections in the community; and "all other considerations that the Court deemed relevant" [96]. In 1949 the Industrial Relations Act was also passed, enabling a Conciliation Commissioner to call compulsory conferences of parties concerned whenever he had reasonable grounds for believing that a strike or lock-out (or the threat of either) existed [97] .

The wartime ESER (1942) were revoked in 1950 but stabilisation policies in respect of wage fixing was not abandoned and the revoked regulations were replaced by the Economic Stabilisation Regulations 1950 [98]. In 1951, the Waterfront Emergency Regulations were enacted, empowering the Minister of Labour to require

the union to end a strike within a specified time and where it failed to do so, to declare the strike to be one to which the regulations applied [99]. Noel Wood provides a convenient summary of the legal implications:

> Once a strike was so declared, it became an offence to be a party to it, or to print or publish anything likely to encourage, incite, aid or abet a strike. The Minister could appoint a receiver of the funds of any union which was party to a declared strike to prevent the funds of the union from being used for unlawful purposes including those purposes which the regulations specified as unlawful. Payments or contributions to such a union or its members were prohibited. The Minister was empowered to suspend the provisions of awards, industrial agreements, or any decision or order related to the terms of employment of workers taking part in a declared strike and could authorise the temporary employment of members of the Armed Forces in any kind of work specified.
>
> There were also provisions in the regulations to prevent picketing and the use of threats and intimidations, to prevent the unlawful display of posters or similar matter, and to prohibit processions and meetings where these were likely to be injurious to the public safety or the public interest. All these provisions, however, were restricted in operations to the ramifications of a strike declared under the regulations and all the prosecutions under the regulations had to be taken in the ordinary Courts of law and were subject to the ordinary processes of law. [100]

The 1951 amendment of the IC&A Act provided for secret ballots in union elections, "modified" dispute-handling procedures of the Act, and "tightened up"

provisions related to strikes. In the event of a strike, the Registrar of Industrial Unions could at any time order a secret ballot of all members of the union(s) involved in the strike as to whether it should continue. In 1952, an Industrial Advisory Council was established to report and recommend to the Minister of Labour on ways and means to improve industrial relations [101].

In 1953, the Economic Stabilisation Regulations were re-enacted. In making a GWO, the Court was to take into account the volume and value of production in primary and secondary industries, and to exclude from the scope of the order "such portion of the remuneration in each week of the workers affected by the order as exceeds an amount determined by the Court" [102].

Wage control through GWO's passed by the Arbitration Court continued into the 1960's. "Historically General Wage Orders have been the principal source of a large number of general adjustments made to salary and wage payments in the economy." [103] To 1970, GWO's were made under the authority of the Economic Stabilisation Regulations 1953; from 1970, the empowering legislation was the

General Wage Orders Act 1969 [104] .

In 1971, the Stabilisation of Remuneration Act was introduced to limit wage increases to a maximum of 7%, and prevent wages from being renegotiated within twelve months of a settlement. The Remuneration Authority was also established, to decide the GWO and consider exemptions [105].

The Third Labour Government lifted wage controls in 1972, abolishing the Remuneration Authority. But in 1973, wages were frozen under the the Economic Stabilisation Regulations. In July 1974, the Economic Stabilisation Regulations were replaced by the Wage Adjustment Regulations which provided for free wage bargaining up to a maximum 2.25%. Wages were indexed to inflation and cost-of-living orders were to be made twice a year [106]. In May 1976, a twelve month wage-freeze was imposed, although in March 1977 a GWO of 6% was granted. Wage controls were lifted in 1977, but subsequent "managed wage rounds" could not exceed Government guidelines. As Boston points out, this meant essentially a return to the system of wage determination of the 1950's and 1960's [107]. In August 1979, the Government re-established the Arbitration Court and GWO's. In August 1980, the General Wage

Orders Act of 1977 was repealed, and "managed wage rounds" continued to 1982 [108]. In June 1982, wage-freeze regulations were introduced. Wages were initially frozen for twelve months, but the termination date was postponed twice (indefinitely the second time) [109].

(c) Legislation controlling incomes from rent

In 1916, the War Legislation Amendment Act dealt with house rents, the maximum rent being fixed at 8% per year of the capital value of the dwelling [110]. In 1926, a Rent Restriction Act was passed to come into operation 1 August 1927. The Rent Restriction Continuance Act 1927 postponed the commencement date until 1 May 1928, Rents were compulsorily reduced 20% by the National Expenditure Adjustment Act 1932. The reduction was at first temporary but was made permanent by the Mortgagors' and Lessees' Rehabilitation Act 1936. Rent restriction provisions were in force from 1929 to 31 October 1936, when they were superseded by the Fair Rents Act [111].

The Fair Rents Act 1936 allowed the Government to put temporary limits on rent increases, and determine

fair rents for certain types of dwelling. Generally speaking, the Act applied to dwellings let at the time it was passed, June 1936, or let between November 27th 1935 and the passing of the Act. Flats or apartments were excluded from the Act and dwellings outside these limits, or let at more than $312 per annum, were not covered. Rent for dwellings covered by the Act could not be raised above the "basic rent"; defined as the rent payable on 1 March 1936, or on the last date before that [112].

In 1939 the Fair Rents Act was amended to extend its cover to all buildings constructed for the purposes of letting. A 1942 Amendment extended the Act to all premises let as dwelling houses, and made it an offence to refuse to let a dwelling on the grounds that the applicant had children. Safeguards were also provided for members of the Armed Forces in their capacity as tenants or landlords [113]. In 1942, ESER provided for the stabilisation of all other rents, land or buildings. The basic or fair rent under these regulations was the same as that under the Fair Rents Act. In 1946, this Act was further extended to cover premises where food or meals were provided by the landlord. Yet another Amendment in 1947 empowered local authorities to serve notice on owners of unoccupied

houses requiring them to let. On default of this notice, the State Advances Corporation could let the building and pay the owner the rent collected less a commission and expenses [114].

The Tenancy Act 1948 repealed the Fair Rents legislation passed during the period 1946-47 but consolidated it in ESER (1942), introducing several Amendments. There were further Amendments in 1950, 1952, 1953 and 1955. From 1950 onwards, rent controls were progressively relaxed. The Tenancy Amendment Act 1953 changed the definition of Fair Rent to allow the landlord to recover capital costs. For business properties, increases in capital valuation, rates or insurance premiums could justify a rent increase. Tenancy Regulations in 1956 assigned Fair Rent as 5% of the property value [115]. From 1955, several classes of buildings were exempted from the Tenancy Act: all flats erected or converted since 1953; all buildings erected since October 1955; all tenancy agreements entered into since November 1961; and all business premises. In 1973, it was estimated that 8800 tenancies were still protected by the 1955 Tenancy Act [116].

In 1973, the Rent Appeal Act provided for Rent Appeal Boards to determine on application by the

landlord or tenant equitable rent for dwelling houses [117]. In 1977, the administration of the Rent Appeal Act was transferred from the Department of Labour to the Housing Corporation, and landlords or tenants could apply to Rents Officer or the Magistrate's Court to fix a fair rent [118].

On 22 June 1982, the Government imposed a wage, price and rent freeze. Under the regulations, goods or services could not be sold above the price ruling in June 1982. The Rent Freeze Regulations were amended as from 13 June 1983 to allow rent increases under certain circumstances. The rent freeze was terminated on 13 February 1984 [119].

(d) Legislation controlling incomes from capital

The supply of credit was directly controlled from 1936 to 1951. Monetary policy from 1952 to 1969 was via Variable Cash Ratios (VCR). Banks were limited in their lending to a set multiple of the level of its cash reserves (deposits). In the 1950's, a target system to restrain the growth of bank advances was tried. It broke however down in the middle of 1957, and was abandoned by the incoming Labour Government. The target system was reintroduced in 1960, and modified in 1965.

It was a two-tier system, under which credit for exporters was relatively uncontrolled but tight control was exerted over other loans. The targeting system broke down in 1967, and was abandoned in 1969. In 1973, VCR gave way to the Reserve Asset Ratio (RAR) system [120] .

Interest charges were compulsorily reduced 20% by the National Expenditure Adjustment Act 1932. Interest rates, including those of trading companies, building societies, stock and station agents, local authorities etc. were controlled continuously from 1932 until 1957, and again for two years from 1960, and again from 1982. Adjustments to these interest rates were made by Interest on Deposit Orders (IDO). The average rate of trading bank overdrafts was controlled until 1969, and again in 1972 under the RBA [121].

The 1933 Reserve Bank of New Zealand Act (RBA) gave the Government of the day the "ultimate responsibility for the monetary policy of New Zealand." The Reserve Bank (RBNZ) was given the power to determine foreign exchange rates and trading banks were deprived of the right to issue notes. Foreign exchange rates for New Zealand currency were set by the RBNZ and the Government until 1984, when a free-floating rate

was instituted [122].

During the first two years after the war, the effective quantitative restriction on imports was the shortage of goods available on overseas markets. By 1948, the amount of imports which could be permitted was limited to current earnings of overseas exchange, and import control became effective as a quantitative control for the first time since before the war. In 1949, attempts were made to abolish import controls. They were tightened again in 1959, and remained tight until 1967, from which time they were gradually relaxed [123] .

The first legislative action of the First Labour Government was to amend the RBA in 1936. The RBNZ was nationalised through Government purchase of the share capital [121]. A further Amendment in 1939 empowered the Minister of Finance to direct the RBNZ on aspects of central banking practice and policy. The private trading banks had to keep a balance in the central bank proportional to "demand liability" (VCR). The RBNZ was able to regulate their creation of credit by altering the statutory balance (the reserve ratio) each trading bank was required to deposit in the RBNZ [122]. In 1945, the Government purchased all shares in the

largest trading bank, the Bank of New Zealand [124].

Early in the war, interest rates were lowered and the lower level was maintained for the duration of the war. Finance Emergency Regulations of 1940 (FER) set overdraft rates. It established a Capital Issues Committee to control capital investment through restrictions on the issue of capital in amounts exceeding 10,000 pounds by any company in any twelve months. It also prescribed maximum rates of interest for approved issues of mortgages, preference shares or debentures. Capital issue and interest controls were used almost continuously from 1932 to 1962 [125].

Maximum and minimum overdraft rates of 5% and 4% were fixed in 1941. Previously there was no maximum but a minimum of 4.5%. The FER also contained powers to set maximum interest rates on trading company, building and investment society and local authority deposits. Trading companies, for example, could pay no more than 1.5% on demand deposits and 3.5% on deposits fixed for three years or over [126].

From 1942, the RBNZ used selective control of bank advances to restrict the availability of credit to certain kinds of borrowers. In 1946, the broad classes

of advances subject to control were advances for speculative purposes; advances for purchases of property and repayment of mortgages; finance for hire purchase or other credit sales; advances for luxury purchases; and advances to non-residents. A complete policy review was undertaken in 1947, based on the principle "that bank credit ought not to be used to finance long-term capital expenditure". Loans to finance new capital investment, including land and buildings (and domestic housing), required approval through the 1950's [127].

The Primary Products Marketing Act 1936 provided for guaranteed prices and established the Primary Products Marketing Department. The exportable surplus was bought by the Department f.o.b. from factories and sold through the Tooley Street agents. In 1947, the Dairy Products Marketing Commission Act empowered the Department to purchase all butter and cheese and regulate its sale on the local market as well. A 1956 amendment removed marketing from political control. The guaranteed prices system lasted from 1936 to 1958 [128].

In 1943, the Government provided for the establishment of Stabilisation Accounts for certain

farm products. Any increase in export prices above levels ruling 15 December 1942 was paid into the Accounts. To keep production costs down to levels ruling at the same date, subsidies were paid from the Accounts. In the downturn of the 1970s, the Stabilisation Accounts were exhausted. In 1978, the Supplementary Minimum Prices Scheme was introduced to guarantee minimum prices for meat, wool and milkfat [129].

In 1950, another amendment to the RBA gave parliament the right to direct RBNZ operations (previously it was the perogative of the Minister of Finance) . A further change in the same year gave the RBNZ the power to take whatever monetary actions necessary to safeguard stable internal price levels and promote production, trade and employment [130].

The 1960 amendment of the RBA reinstated the 1939 clause enabling the Minister of Finance to determine the criteria for monetary policy. The sovereign right of the Crown to control currency and credit was declared and Government control introduced (through the RBNZ) over money, banking and currency, interest rates and the direction of trading bank policy [131].

In 1962, the IDOs were revoked and capital issues control was virtually abolished. Issue controls were continued for foreign-owned companies and used to control the growth of finance companies during the period 1967-69. Although most interest rates were freed from control, the following remained subject to direct official control: borrowing by local authorities, the average rate on bank advances, rates on deposits with the Post Office, and the Trustee Savings Bank. Moral suasion was applied to keep interest rates down. In 1971, foreign banks were allowed to set up merchant banks in New Zealand [132].

A 1973 RBA amendment stated "it is a primary function of the Bank to ensure that the availability and conditions of credit provided by financial institutions are not inconsistent with the sovereign right of the Crown to control money and credit in the public interest". It extended the controls previously exercised over the trading banks (i.e. its power to make recommendations, give directives, specify rates of interest, require the holding of specified assets, inspect books and request information) to include all financial institutions [133].

Maximum profit ceiling provisions of the

Stabilisation of Prices Regulations 1973 required traders to ensure they did not exceed the maximum profit ceiling in any one year. The maximum profit ceiling was defined as the average percentage of profit to sales achieved during the last four years immediately preceding July 1974. Where traders obtained excess profits, they were required to liquidate it either through reducing prices or absorbing cost increases. In 1974, financial enterprises were brought within the ambit of the stabilisation of prices regulations 1974. Under the Commerce Act 1975, Category A firms (producers of steel, cement, pharmaceuticals, canned, sugar, flour, butter and salt) had their profits set so that the rate of return on the book value of invested capital typically did not exceed 12.5% before tax [134].

From 1976 to 1981, direct credit controls were removed. In 1976 the IDR were abolished, releasing controls on trading bank overdraft interest rates. In July 1977, savings banks interest rates were freed. In 1978, a compensatory deposit scheme was established to take account of seasonal fluctuations in demand for bank credit. When demand was high, bank liquidity was squeezed by the RAR [135].

Direct control of lending resumed in November 1981 and of deposits in June 1982: a November 1981 amendment to the Financial Services Regulations required financial institutions to obtain the consent of the RBNZ before increasing interest rates; in June 1982, IDR were reintroduced. Interest charges were frozen at the November 1981 level and interest rates paid on deposits at the mid-1982 level [136].

From 1984, the Fourth Labour Government has systematically dismantled the entire legal structure controlling foreign exchange, imports and exports, interest rates, investment, profits, etc., replacing them with a strict control over the money supply.

Fixing the curve of state intervention

On the basis of the above survey, a rough periodisation is already visible. Between 1920 and 1983, state management of the New Zealand economy breaks into three epochs. During the first, ending around 1935, state intervention in the allocation or redistribution of scarce resources is minimal (leaving aside the effects of Arbitration Court rulings on wages). A few price controls were left over from World War I; wage rates were cut by state regulation in the

early 1930's; rates of interest and rent were cut occasionally.

By contrast, at the end of the 1930's wages, raw materials, rents, finance charges, fuel and transport costs, credit and money supply, foreign exchange and interest rates - that is to say most prices - are controlled to a great extent. Where the state could not directly control prices (e.g. in the case of imported machinery and raw materials), it covered manufacturers' cost increases through subsidies. The only time that the allocation of a factor of production was completely controlled was under the Industrial Manpower Emergency Regulations of 1942. Under these Regulations, which applied from mid-1942 until 31 March 1946, some 176,088 employees were directed to work in designated industries [137].

After Labour lost the 1949 general election, the incoming National Government tried to phase out controls yet maintain price stability. From that time, the basic trend of interventionism until around 1973 is towards relaxation of controls. Periodically the controls were re-imposed (1957-59 and 1962-64 in particular). The third period begins around 1973-74, from which time the general trend is towards more

intervention.

For a more accurate periodisation, the rafts of interventionist legislation need to be fitted to the scale. It might be objected that our survey of the legal framework omits important items. Demand-siders might argue that data should be collected showing the regulation of the economy in terms of specific policy instruments, instead of factor-incomes. But the vast majority of policy instruments are covered by the above survey. The major omission in this respect is import controls.

As noted, Rosenberg sees import control as the crucial lever of state economic management. But attributing prime weight to import controls assumes fluctuations in the growth rate of world capitalism. The whole point to import control is indeed to protect national economic development against those fluctuations. The task however is to explain the uneven nature of capitalist development, and not just assume it. At bottom, bourgeois economic theory posits that this explanation must be sought in the relationship between capitalist development and state intervention. The aim here is to test the "openness" of the bourgeois theories in this regard against the hard facts of New

Zealand experience. As such, the production and distribution of factor incomes are the crucial explanatory variables, not specific instruments of state economic policy.

In New Zealand, demand-siders typically regard the depression of the 1930's as refuting supply-side economics, and point to the subsequent economic growth as proof of their own theory [138]. Supply-siders, however, point to the crisis since 1973 as the crucial experiment falsifying demand-side economics. Both sides select those slices of history that fit their own theory. The only way to avoid arbitrary data selection is to trace the whole historical trajectory of state interventionism. The question that remains is: which legislation best indicates state intervention in the production and distribution of incomes ?

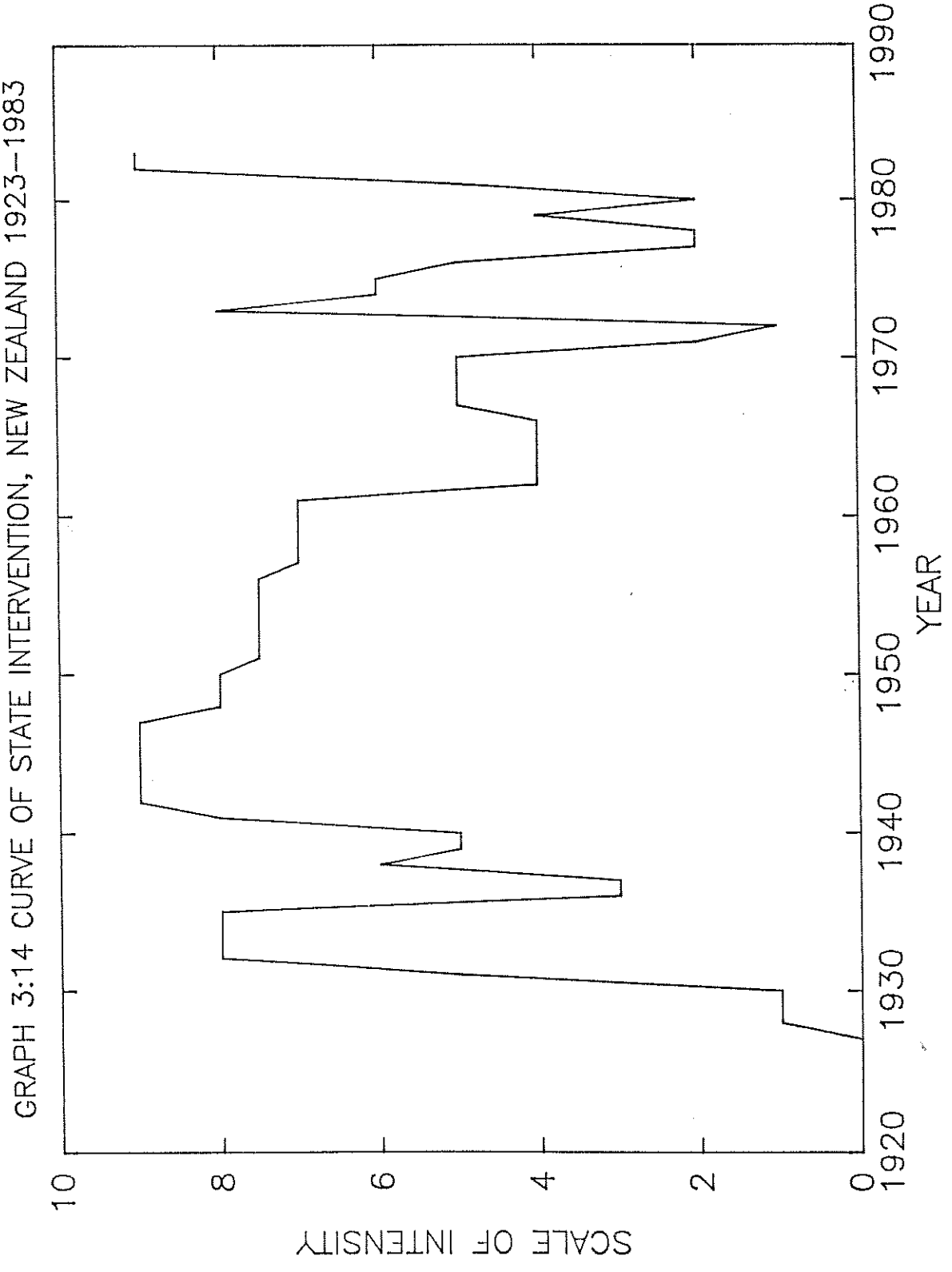
The legislation cited previously is selected because it is directly related to the production and distribution of factor-incomes. Undoubtedly economic historians could point to other legislation which would need to be taken into account for an exact or more subtle representation of the intensity of interventionism over time. To date, however, no systematic quantitative treatment of the problem has

been provided by economic historians. The curve fixed below - whatever its imperfections - at least allows the main trend of the development to be approximated.

Table 3:1 reports the level of state control over each of the three factor-incomes and converts them - using the scaling principles discussed earlier - into a single score (see p. 224 above).

	-----FACTOR INCOMES------			
	WAGES	RENTS	INTEREST	SCALED
1923	0.0	0.0	0.0	0.0
1924	0.0	0.0	0.0	0.0
1925	0.0	0.0	0.0	0.0
1926	0.0	0.0	0.0	0.0
1927	0.0	0.0	0.0	0.0
1928	0.0	1.0	0.0	1.0
1929	0.0	1.0	0.0	1.0
1930	0.0	1.0	0.0	1.0
1931	2.0	1.0	0.0	5.0
1932	2.0	2.0	1.0	8.0
1933	2.0	2.0	1.0	8.0
1934	2.0	2.0	1.0	8.0
1935	2.0	2.0	1.0	8.0
1936	1.0	1.0	1.0	3.0
1937	1.0	1.0	1.0	3.0
1938	2.0	1.0	1.0	6.0
1939	2.0	1.0	1.0	5.0
1940	2.0	1.0	1.0	5.0
1941	2.0	1.0	2.0	8.0
1942	2.0	2.0	2.0	9.0
1943	2.0	2.0	2.0	9.0
1944	2.0	2.0	2.0	9.0
1945	2.0	2.0	2.0	9.0
1946	2.0	2.0	2.0	9.0
1947	2.0	2.0	2.0	9.0
1948	2.0	1.0	2.0	8.0
1949	2.0	1.0	2.0	8.0
1950	2.0	1.0	2.0	8.0
1951	2.0	0.5	2.0	7.5
1952	2.0	0.5	2.0	7.5
1953	2.0	0.5	2.0	7.5
1954	2.0	0.5	2.0	7.5
1955	2.0	0.5	2.0	7.5
1956	2.0	0.5	2.0	7.5
1957	2.0	0.0	2.0	7.0
1958	2.0	0.0	2.0	7.0
1959	2.0	0.0	2.0	7.0
1960	2.0	0.0	2.0	7.0
1961	2.0	0.0	2.0	7.0
1962	2.0	0.0	0.0	4.0
1963	2.0	0.0	0.0	4.0
1964	2.0	0.0	0.0	4.0
1965	2.0	0.0	0.0	4.0
1966	2.0	0.0	0.0	4.0
1967	2.0	0.0	1.0	5.0
1968	2.0	0.0	1.0	5.0
1969	2.0	0.0	1.0	5.0
1970	2.0	0.0	1.0	5.0
1971	1.0	0.0	1.0	2.0
1972	0.0	0.0	1.0	1.0
1973	1.0	1.0	2.0	6.0
1976	2.0	1.0	0.0	5.0
1977	1.0	1.0	0.0	2.0
1978	1.0	1.0	0.0	2.0
1979	2.0	1.0	0.0	4.0
1980	1.0	1.0	0.0	2.0
1981	2.0	1.0	1.0	5.0
1982	2.0	2.0	2.0	9.0
1983	2.0	2.0	2.0	9.0

TABLE 3:1
STATE INTERVENTION SCORES


GRAPH 3:14 CURVE OF STATE INTERVENTION, NEW ZEALAND 1923–1983
SCALE OF INTENSITY
0
2
4
6
8
10
1920
1930
1940
1950
1960
1970
1980
1990
YEAR

Graph 3:14 uses the values of Table 3:1 to report the level of interventionism in the New Zealand economy through the 1920-83 period. The basic trend is clear: a steep rise in the early 1930's; a brief dip in 1936-37; a high point in 1942-47; a slow, uneven decline to around 1967; a brief rise to 1970; a sharp increase in 1973, receding to 1978; and a return to the maximum level in 1982-83. Direct state intervention was incontestably higher during the war years than at any other time.

The curve does not recognise the difference between the 1940's and the early 1980's because the scaling used is not sufficiently sensitive. At the same time, the curve does not register intervention through taxation either - which, as shown earlier, rises over time. To a large extent, the two shortcomings must cancel each other out in the curve.

Bourgeois economists all agree that the allocation of incomes (returns to factors of production) is the crucial determinant of the economic growth rate. This allocation can be achieved via market forces, via the state, or via some mixture of the two. Disagreement between the two schools of bourgeois economists centres around which allocation mechanisms best promote

economic growth. Supply-siders argue for market forces; demand-siders argue for state intervention. But when the curves of interventionism and capitalist development are compared, the notion that state interventionism is the cause either of faster or of slower growth is not corroborated.

At first sight, it seems that the supply-siders are vindicated. The longer wave-like motion of economic development identified in chapter 1 does roughly correspond to the broad curve of interventionism: the first period in this curve is characterised by intensified interventionism until 1947, corresponding to the epoch of sluggish growth ending at the same point; similarly, the long boom corresponds to a slow decline in state intervention to 1973; finally, the current crisis corresponds to a further rise in interventionism.

But when the curve of interventionism is compared with the annual growth rate of national income (at market prices, war-adjusted), an altogether different picture emerges. First, the decline in 1927 precedes state intervention. The upturn in 1936 follows an upturn in state intervention. The greatest upturn and the greatest downturn in the data (1947-49) both occur

during the period when state intervention was most intense. It must be concluded that state intervention does not cause, at least not in any simple way, fluctuation in the rate of economic growth.

Demand-siders argue that state intervention is essential to secure long-term growth. Yet during the long boom the level of interventionism declined. As well, high levels of interventionism since 1967 correspond with recessions. The conclusion to be drawn is that state intervention is neither a necessary nor a sufficient condition for economic growth.

It was noted earlier that national income data are biased against supply-side economics. To ensure that the refutation of supply-side economics does not inhere in the compilation of data, the test should be repeated using data from the Revised Factory Production (RFP) series.

Graph 3:15 traces the curve of interventionism only for the period covered by factory production data used in this study (1923-70). A comparison of this curve with the curve of accumulated annual Net Output yields the following results: during periods of intensified interventionism both rapid and slow

economic growth can be found. Whereas in 1927 both interventionism and capitalist development are on the rise, in 1932 interventionism rises but the economy dips. In 1936, interventionism falls but the rate of growth rises, and so on. Both the highest upturn and the deepest downturn appear during a period of intense interventionism.

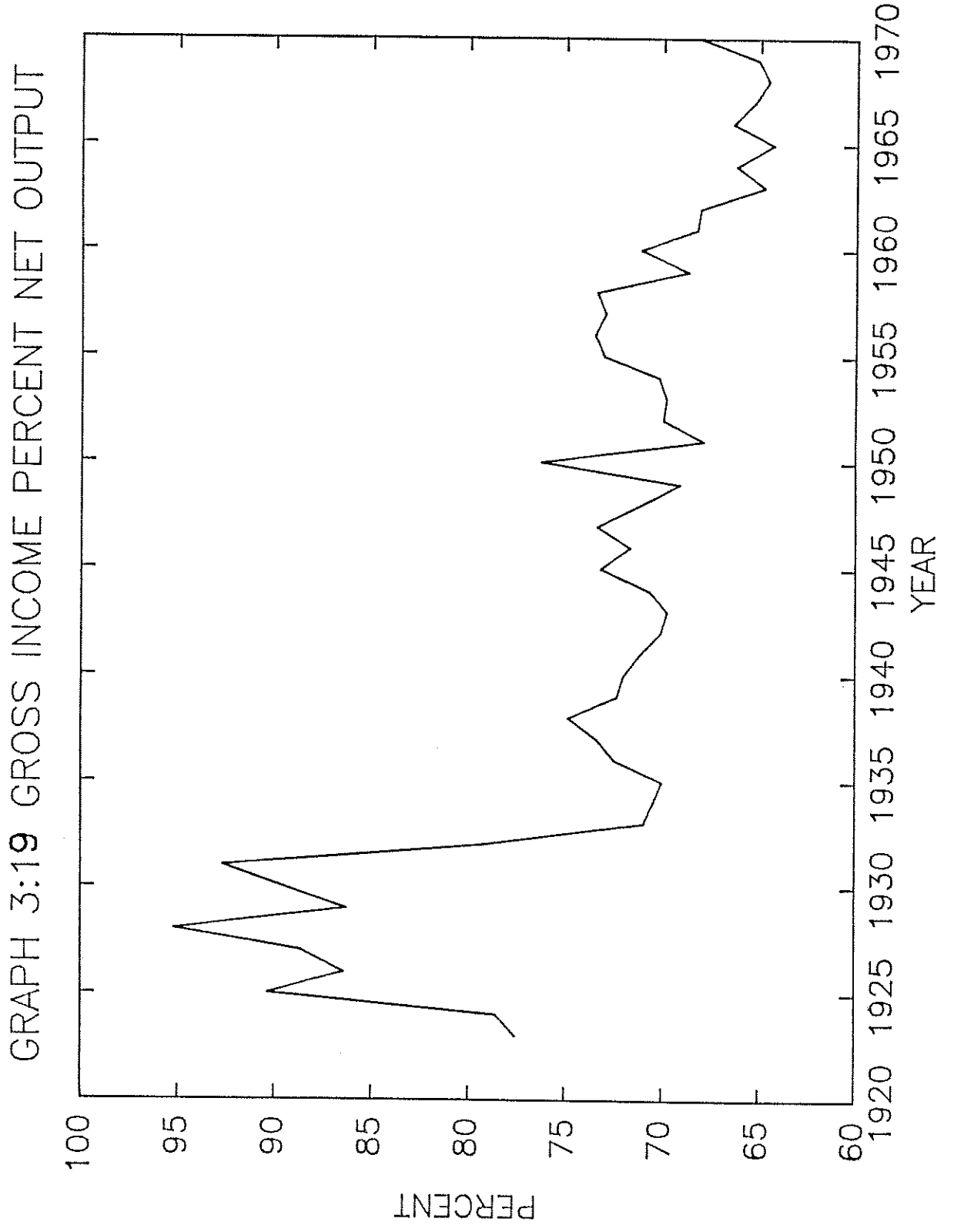
The conclusion is inescapable: there exists no positive correlation between the doctrines of bourgeois economic theoreticians and the real history of bourgeois economic practice. In the New Zealand case at least, the level of interventionism cannot be used to predict the level of economic growth. As a predictor or explanation of fluctuations in the level of economic activity, bourgeois thought offers no more than the ancient saw on the military strategy of the Grand Old Duke of York, to wit:

> When they're up, they're up
> When they're down, they're down;
> And when they're only half-way up -
> They're neither up nor down.

The question is posed: how is it that two very widely-held theories of economic development can find

so little support in actual economic development ? There could be at least two reasons why state interventions have so little impact on long-term economic growth. The first is that state interventions do not in fact alter the allocation of rewards to factors of production. The second is that the allocation of rewards to factors of production is not the only important determinant of economic growth.

According to both supply-siders and demand-siders, state intervention should increase the consumers' share of total new income. Graph 3:16 reports the distribution of Net Output (RFP) for 1923-70. The long-term trend is towards the share of wages and salaries (consumer) in total income to decline. A comparison of wages and salaries with the curve of interventionism yields the following results: the first major period of interventionism is accompanied by a sharp drop (12%) in the income-share of wage and salary earners; reduced interventionism in 1935-37 corresponds to a slight rise in their income-share; again, intensified interventionism in the early 1940's and late 1960's corresponds to falls in the income-share of wage and salary earners. The historical trend of the distribution of Net Output thus confounds both theories.

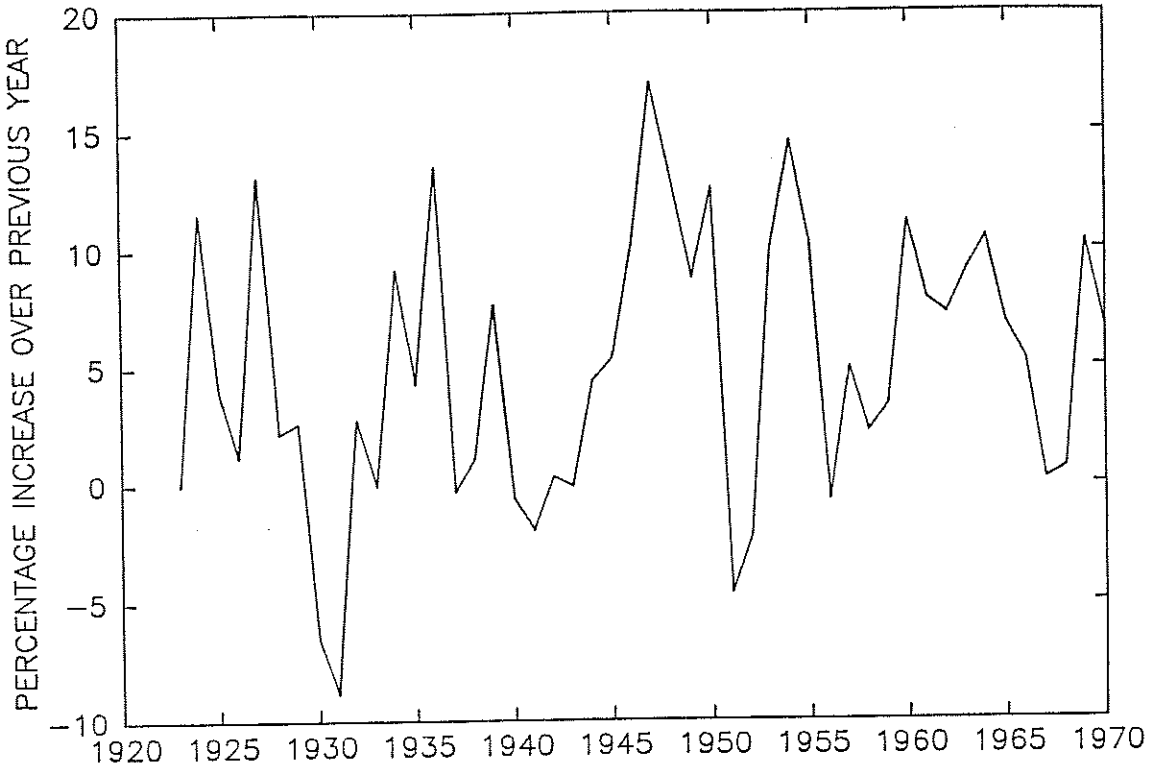

GRAPH 3:19 GROSS INCOME PERCENT NET OUTPUT
PERCENT
100
95
90
85
80
75
70
65
60
1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970
YEAR

In the same vein, Graph 3:18 reports an index of the income per person engaged and the income per establishment (1936 = 100). It shows that incomes per establishment fluctuates much more markedly than do incomes of persons engaged. The income of establishments rises much more sharply throughout, irrespective of the level of interventionism.

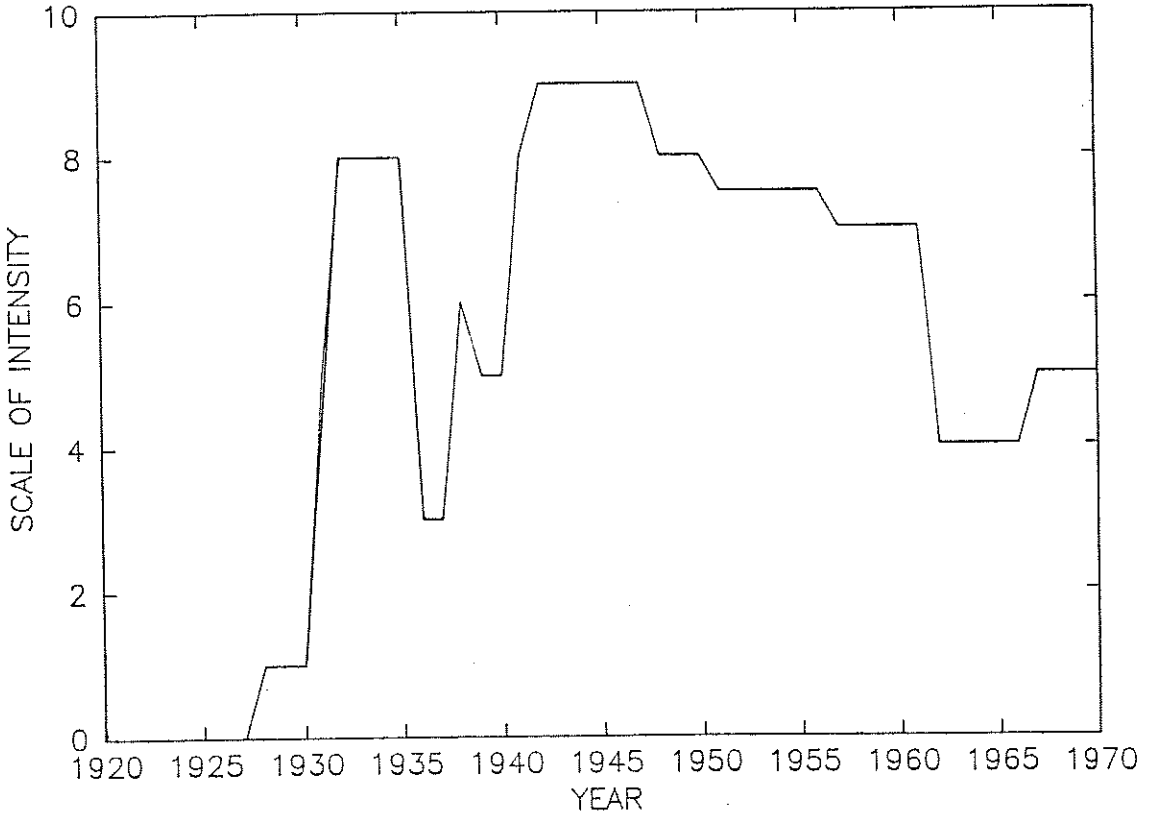
Graph 3:19 shows gross income per person engaged as a percentage of Net Output per person engaged. The overall trend is towards a diminution of this fraction, from around 78% to 68%. The share of Net Output which is consumer income is highest when the market determined the ratio. The immediate impact of state intervention was a fall of around 20% (1930-31). Until the mid-1960's, whenever the economy is "freed up", the share which is consumer income rises.

Both demand-siders and supply-siders explain fluctuations in economic activity in terms of disequilibria between consumption and investment. Supply-siders argue the that markets will automatically generate equilibrium, but when the market reigned supreme (until 1928), there were two deep recessions in Net Output in the space of five years. Demand-siders argue that state intervention is essential to secure

GRAPH 3:20 RATE OF GROWTH OF ANNUAL INVESTMENT FUND



GRAPH 3:15 CURVE OF STATE INTERVENTION, NEW ZEALAND 1923–1970



equilibrium. But since the advent of interventionism the range of oscillation has in fact increased.

Finally, economic growth depends on the supply of investment funds. Supply-siders argue that, without a certain level of return, investors lose their propensity to invest. Is there a relationship between actual new expenditure (expenditure in year 2 less expenditure in year 1) and the curve of interventionism ? Graph 3:20 reports the growth rate of total annual expenditure (= wage and salary payments + raw materials costs + other productive expenses + fixed capital outlay). Up to 1950 at least, a relationship does appear to hold. Annual expenditure seems to rise after the level of interventionism has risen, and vice versa.

What has to be ascertained is whether this propensity to invest is a function of the reward for investment from the last production cycle. Part of the answer is given in Graph 3:21. It compares manufacturers' surplus from the previous year (dots) with total new expenditure (line). New investment exceeds manufacturers' surplus, except during recessions in the production of Net Output of RFP (1930-32, 1937, 1956, 1958, 1962 and 1967). By contrast, during the periods 1945-50, 1954-57, 1959-61,

1963-66, 1968-69 (i.e. upturns in the production of Net Output RFP), new annual expenditure considerably exceeds the previous year's surplus. The propensity to invest, therefore, is at least partially autonomous from the rate of return in the preceding year and at least partially conditioned by the prevailing economic growth rate. Graph 3:22 brings out the autonomy of investment from the rate of return in a more striking way. It shows the ratio (1 : 1) of new investment to the previous year's manufacturers' surplus. The ratio ranges between almost +4 in 1927 and -11 in 1931. Plainly there can exist no mechanical relationship between surplus and investment.

But neither can there be a mechanical relationship between current economic conditions and new investment. If there was such a relationship, new investment and additional growth would be mutually reinforcing: growth would spur new investment, new investment would stimulate growth, and so on. The unfortunate fact that downturns do occur entails the existence of some additional or intervening variable(s). There are two possibilities here: either there is not enough demand in the economy to sustain growth; or the rate of return is insufficient to sustain investment. At this point, we are back at our point of departure, namely the

relative merits of supply-side and demand-side economics.

But both were tested against history and both failed the test; fluctuations occur regardless of whether the economy is market-led (supply is "free") or demand-led (demand is manipulated by the state). The abstractions of demand-side economics stipulate that supply is only of secondary importance while the abstractions of the supply-siders stipulate that demand is only of secondary importance. The consequence is that neither can explain economic downturns during periods when conditions supposedly most favourable for economic growth obtain. That is why both supply-siders and demand-siders ignore the slices of history that do not fit their theories. To explain the whole historical development exclusively in terms of supply, demand and prices, each is forced to re-introduce the other's theorems by the back door... hoping that no one will notice.

The alternative is to stand by one's abstractions but leap into eclectic ad hoc hypotheses when confronted by the complexity of real economic history, i.e. "to substitute understanding of reality with chaotic description, with the juxtaposition of a great

number of details that merely prevent one from grasping the internal logic... [of historical development]" [139]. Prevented from explaining real history in terms of purely economic categories, their way out is to introduce so-called extra-economic factors for an explanation.

Traditionally two tactics are employed here. One consists in introducing specific exogenous factors as additional independent variables (system shocks like wars, oil crises, natural accidents or calamities, and and so on). The other is to invoke so-called cultural factors (social, political and ideological structures).

In New Zealand, economic commentators have attributed the curve of capitalist development variously to the pioneering spirit, the frontier mentality, lack of entrepreneurial daring, the cul-de-sac of welfarism; too-powerful unions; the lack of a feudal aristocracy, which led to "state socialism"; "classnessless" and the myth of equality; geographical isolation, and so on. Bourgeois scholars like Sinclair, Franklin, Sutch, Rosenberg, and Easton resort to this kind of eclecticism time and again to account for New Zealand's long-term sucesses and failures [140].

But this retreat to extra-economic explanations for economic events is also a rejection of the causal primacy of economic factors, which puts the whole raison d'etre of a purely economic science in question. Scientific integrity demands a unified theory which links the economic categories such that the fact that both demand and supply can stimulate or stifle economic growth is explained in a lawful, non-capricious fashion. Our claim is that marxist economic theory offers this possibility.

CHAPTER FOUR

A MARXIST THEORY OF CAPITALIST DEVELOPMENT

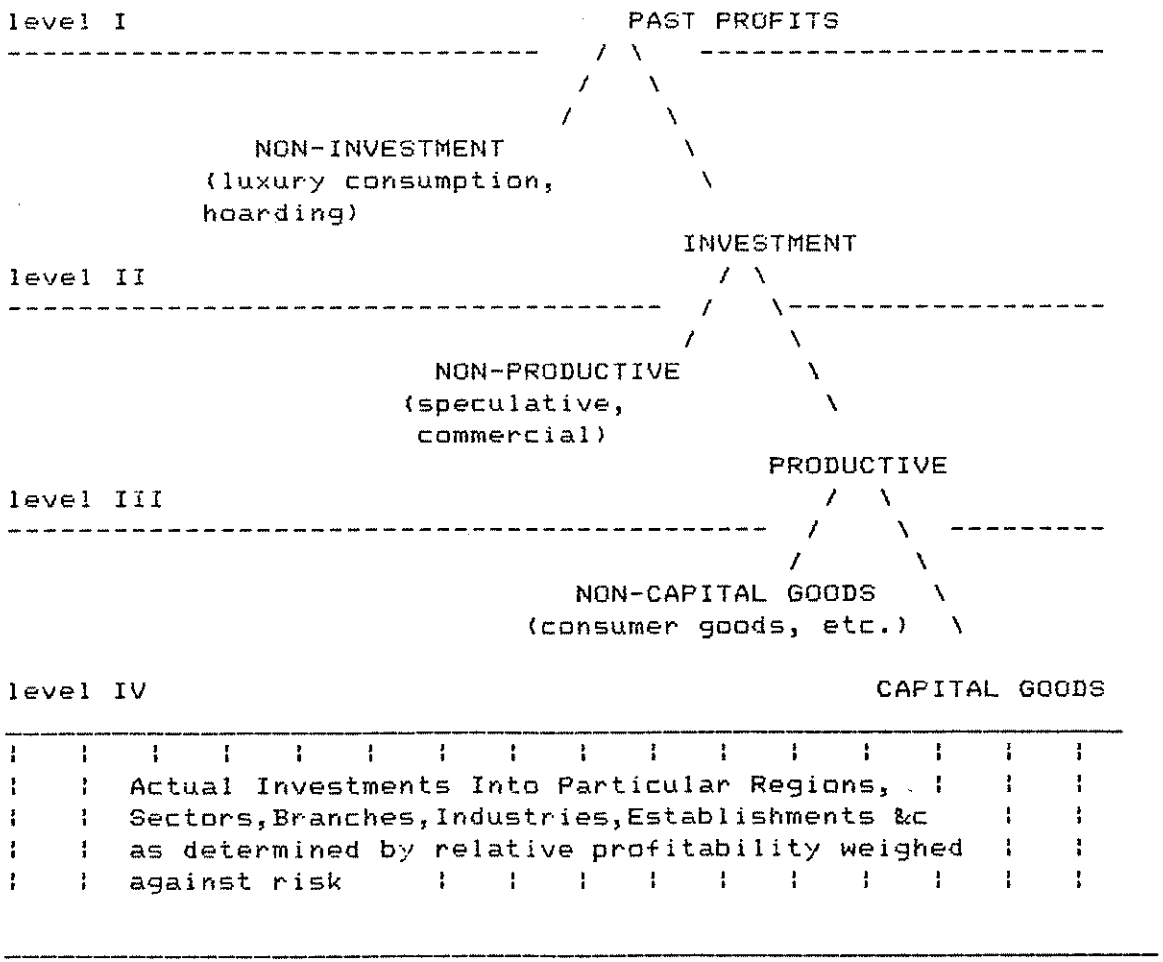
The starting point for a marxist explanation of the curve of capitalist development is the rate of profit. Marxists agree with supply-siders that changes in economic growth rates reflect changes in the general profit rate: profitability is the decisive determinant of investment activity [1]. But marxists deny that rising profits automatically lead to higher levels of investment; no implacable law exists to ensure that all resources saved will be invested in production today [2]. Profits can be hoarded, or spent on non-productive consumption (luxury goods). History shows that both options are pursued to some degree at any time [3].

The actual distribution of realised profits between these options - productive investment/luxury consumption/ hoarding - depends greatly on investors' opinions about the so-called "investment climate". If the profit rate is high or rising, and business confidence is high, the propensity to invest in production is raised. In addition to confidence in the

future of the economy, investor behaviour also depends on judgments about social and political stability [4]. When the profit rate is low or falling, the propensity to invest is reduced; profits are more likely to be diverted to other ends. Here again the relation between investment and profitability is not straightforward. If the return on an investment of $100,000,000 falls by 2% from 10%, this fall may be viewed as the "loss" of $2,000,000 or as an $8,000,000 profit.

The influence of the profit rate is not exhausted in making decisions about whether to invest or not. It directs profit flows to particular types of investment. After all, investment can take many forms. Profits can be fed directly into production to raise output, or put into marketing campaigns to raise sales. It can be used for speculative ventures (gambling in stocks and shares, futures, real estate, currencies, etc.). Yet another possibility is that profits are loaned to banks or finance houses, whence they will be used indirectly to produce, speculate or consume. The decisive factor determining the choice between different options will be the differences in profit rates as weighed against risk, interest rates, and so on [4].

Figure 4:1


level I
PAST PROFITS
NON-INVESTMENT
(luxury consumption,
hoarding)
INVESTMENT
level II
NON-PRODUCTIVE
(speculative,
commercial)
PRODUCTIVE
level III
NON-CAPITAL GOODS
(consumer goods, etc.)
level IV
CAPITAL GOODS
Actual Investments Into Particular Regions,
Sectors,Branches,Industries,Establishments &c
as determined by relative profitability weighed
against risk

CHAPTER FOUR

After the decision to invest in production is made, the profit rate continues to exert influence. Within the sphere of production itself, profit signals shunt investment flows into particular sectors, industries and firms. The various levels of determination by the profit rate are pictured in Figure 4:1.

According to Marx, the rise and fall of economic activity corresponds to the rise and fall of the profit rate. This view is hardly controversial; the most conservative bourgeois economists endorse it [5]. But these economists are concerned only with determinants at the fourth level identified in Figure 4:1. The only qualitative difference they recognise is that between investment and consumption. No attention is paid to other qualitative differences e.g. between productive and non-productive investments, or between ordinary and luxury consumption [5].

The impression is created that everything not invested is consumed and vice versa; growth becomes a function of the savings ratio and economic problems in the final analysis reduce to either excessive or insufficient savings. It is this view that underlies the doctrines of demand-side and supply-side economics

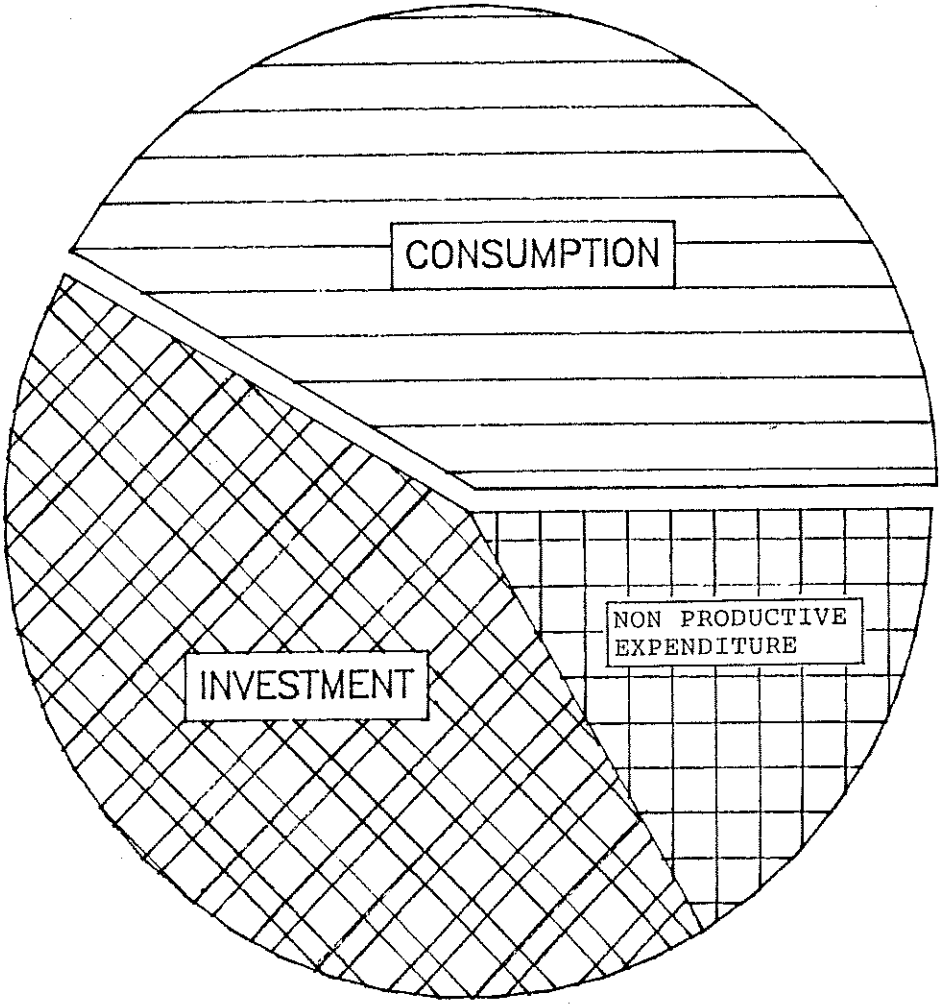


Figure 4:2 Marxist model of the economy

In the marxist model of the economy there are three distinct funds: consumption, investment and non-productive expenditure. Once the fund of non-productive expenditure is admitted, economic relations are no longer limited to a zero-sum game between investors and consumers. Squeezing the consumption fund will not necessarily lead to an expansion of investment; it may lead only to an expansion of non-productive expenditure.

[6]. It is also a cause of the problem-blindness of economists. Supply-siders "forget" that the economic function of investment is expanded consumption (optimal satisfaction of human needs); demand-siders forget that from the investor's standpoint the aim is maximum profits not economic equilibrium.

A deeper cause of the problem-blindness of economists is their inability to distinguish the source from the distribution of profits [6]. Without this distinction all activities attracting profit appear equally productive; it becomes impossible to distinguish in a non-arbitrary way between productive and non-productive economic activity [7]. One consequence is that these economists are unable to explain why there should be a general profit rate - let alone fluctuations in this rate - except by recourse to extra-economic factors. The inability to explain the determination of profit levels turns out to be a professional disaster for those economists who explain the level of economic activity in terms of the profit rate. It means that they must resort to extra-economic explanations to account for purely economic activity [8].

CHAPTER FOUR

The source of profit

For bourgeois economists it is self-evident that profit arises when incomes exchange against goods and services, and vice versa. Profit simply equals the difference between selling price and cost price [9]. More sophisticated economists see profits as being a margin that arises as the result of the interaction of the factors of production [10]. The suggestion is that profits (operating surpluses) arise in the production of current output. But the only evidence that profit has been "produced" is that firms report a surplus in their accounts. Since the origins of this margin are not accounted for, this approach likewise reduces to the notion that profit "arises" in exchange: profit is "explained" as selling price less the sum of cost prices for the factors of production.

If profit is created in exchange, then its only limits are the extent to which buyers can find other buyers prepared to pay more than they did for goods. Aggregate profit accordingly is the sum of all these profits in an accounting period. The profit rate will be the ratio between total profits and the sum of cost prices. The problem here is that if profit appears in exchange, then one man's profit is another man's loss;

the net result of the sum total of exchanges can only be zero, and profit-making at a macro-economic level is just a redistribution of incomes.

An intrinsic feature of the bourgeois view of economic growth is that changes in the profit rate determine the growth rate. But if the general profit rate always equals zero, it is not so easy to see how this constant could cause changes in the growth rate. More damning still is that economic growth is contingent on the production of a surplus for reinvestment. But if profit-making reduces to the redistribution of incomes, it is exceedingly difficult to conceive how the economy could grow at all.

According to marxist economic theory, profits can be realised because exchange releases and distributes social surplus product already "locked in" the products being exchanged [11]. In capitalist economies (where production for the market is generalised), surplus product takes the form of surplus-value. Surplus-value is one component of the exchange values of commodities; in turn, exchange-value is one aspect of the commodity as such. Commodities must have both use-value (utility to satisfy needs) and, because they are traded in markets, exchange-value (comparability with other

commodities) [12].

Although surplus-value is not visible and obvious in the way that profits are, there is nothing particularly mysterious about it.

> Surplus-value and the rate of surplus-value are, relatively, the invisible and unknown essence that wants investigating, while the rate of profit, and therefore the appearance of surplus-value and the form of profit are revealed on the surface of the phenomenon [13].

Surplus-value is the difference between value created by workers and the value consumed in maintaining them [14]. When workers exchange their labour time for wages, they receive an income roughly equivalent to the cost of goods and services necessary to replenish basic physiological, psychological and social needs -enabling them to return each working day to the workplace . In exchange for wages, workers surrender control over their labour for a period of time fixed at the time of the exchange [15] .

Where bosses invest in wages, they normally also invest in plant, buildings and raw materials. They run into other kinds of production costs -supplies of energy (heating, lighting, fuels), maintenance, administration, etc. The difference between the number of hours worked to recoup the value of wages, wear and

tear of equipment, and additional productive expenses on the one hand, and the total hours worked on the other is surplus labour. Necessary labour is labour required to recoup the initial investment fund; surplus labour is all additional labour [16].

The marxist argument is not that bosses buy labour cheap and sell it dear. In buying workers' labour time for a set period, the boss gains the right to use their capacity to labour (labour-power) for that time. Labour exchanges at value, i.e. its reproduction cost. Surplus-value is created because labour power can generate more value than it uses up (cost to reproduce). Because workers contract out their capacity to work for the entire period, they forfeit all rights to this additional value. Capitalists make profits because they have something to sell for which cost them nothing. Surplus-value is unpaid (surplus) labour [17].

Roughly speaking, the ratio of additional value ("S") to necessary value ("N"; the value required to recoup the original investment) is the profit rate (S/N). The exchange-value of every commodity includes a necessary value component and a surplus-value component. Aggregate profit equals the total surplus-

value released when commodities are sold. If the general rate of profit is to equal S/N, all goods must sell at prices equal to their exchange-value [18].

The investment fund comprises two kinds of capital differentiated by function. Constant capital ("C") is used to buy plant, equipment, raw materials etc. It is "constant" because its value is preserved in the production process through piecemeal transfer to product units. Variable capital ("V") is the outlay on wages, "variable" because its consumption results in a value greater than that of the initial outlay [19]. Living labour fullfils a dual function in the production process: it preserves the value of existing capital and creates all new value [20].

The claim that labour power is the only factor of production that creates new value - "the yeast in the dough", so to speak - is neither an arbitrary whim nor politically motivated. Bosses are capitalists because they possess the capital (investment fund) that keeps the production process going. But capital is only an accumulation of surplus product. Thus the substance of the claim that all factors of production reduce to labour is that current production relates past and present labour [21].

CHAPTER FOUR

The distinction between constant and variable capital permits a more precise expression of the rate of profit as S/(C+V). It also allows the definition of the rate of surplus-value as S/V. Although the exchange-value of any commodity combines a constant capital component, a variable capital component and a surplus-value component, it does not mechanically reflect the quantity of particular labour expended in its production. Exchange-value is determined rather by the quantity of socially necessary labour, i.e. the average labour required for its (re-) production [22].

Dimensions of socially necessary labour

The distinction between particular concrete labour expended in the production of specific goods and abstract (socially average) labour enables marxist economic theory to transcend the dichotomy of supply-side and demand-side economics. The problems of aggregate demand and the propensity to invest can be dealt with in a unitary framework [23]. Labour expended in production is not always socially necessary labour. Labour expended in the production of unsaleable commodities is labour which, from the standpoint of the market, is socially unnecessary labour (i.e. wasted

labour) [24].

The purchasing power of consumers (effective demand) equals S + V + reconstituted C *. Its magnitude is equal to the exchange-value of total output. The first condition for economic equilibrium is that this demand is used to clear the market of total output. This requires that S incomes and V incomes are created and distributed in definite proportions which mesh with the use-value structure of total output. The use-value structure of output always has a definite quantitative shape: X percent investment goods, Y percent consumption goods, and so on. At the same time, wage earners do not buy luxury or constant capital items; only capitalists do [25].

The conditions for balanced growth are formulated by Marx in his reproduction schemas [26]. These schemas show, in formal-logical terms, that if sufficient surplus-value is produced and incomes are allocated in ideal proportions, continuous economic expansion (uninterrupted expanded reproduction) is

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* Reconstituted constant capital is defined as the total value of raw materials and "other productive expenses" used up plus the depreciation of plant and machinery. Throughout the text the term is abbreviated "rC". This value is preserved by living labour through transfer to new products.

possible [27]. But if we leave the world of schemas and value-flows in general, we enter a world where value-flows are expressed in relations between specific quantities of particular goods.

Here the use-value aspect of commodities is of vital importance and "social necessary labour" acquires a further dimension. Surplus-value produced by workers in each plant remains, as it were, "locked in" the products until sold. The full realisation of surplus-value depends on whether the total output of factories can be sold at prices equal to its exchange-value [28]. As noted, the first condition for equilibrium is that the incomes of investors and consumers balance with the capital and consumer good structure of total output. But even if this condition obtains, the use-value structure of output must mesh with the use-values effective demanders want and can afford to buy [29]. What is on offer in the marketplace must correspond to the needs and wants of particular consumers.

Another dimension of "socially necessary labour" concerns average rates of labour productivity in different firms, industries and sectors of the economy. The return flow of surplus-value is mediated by

competition between firms. This competition ensures uniformity of selling prices for similar goods irrespective of the different amounts of concrete labour expended in their production. Consequently exchange-value realised in the market does not flow back to each firm in direct proportion to the firm's consumption of total social labour. Firms which sell their output below exchange-value cannot receive all surplus-value it contained. Normally this surplus-value will be realised in the market but is appropriated by firms selling output at prices above exchange-value [30].

Surplus-value is returned to firms roughly in proportion to the "organic composition of capital". The organic composition is the ratio of constant to variable capital (C/V). As a rule, an organic composition above the social average means that more plant and machinery is employed per unit of living labour than is typical for that society (the exceptional case is where raw material costs are above average). Consequently differences in organic composition equate roughly to differences in the labour productivity. In the final analysis, each share of total surplus value appropriated is a function of both the share of total social labour expended and the

relative productivity of that labour [31].

The logic of capitalist reproduction

The quantitative implications of the preceding discussion can be demonstrated in a series of simple models. Assume an industrial sector comprising three firms A, B and C producing identical use-values. A has a relatively high organic composition, B has the average, and C a relatively low one, such that A = 100C/75V, B = 75C/75V and C = 50C/75V. Assume also that S/V is 2:1 and that in one production cycle all capital is consumed. In that case, total output will be 975 units of exchange-value, including 500 units of surplus-value and 475 (225C + 250V) units of necessary value. Assume that labour productivity strictly corresponds to the differences in the organic composition (A = 1.25C : 1V, B = 0.75C : 1V, and C = 0.75C : 1V) and that C produces 125 product units (items). In that case, B will produce 150 and A 175 items in one cycle, and the combined output will be 450 items.

Assuming perfect proportionality between use-values produced and the incomes for which they exchange, all items sell at value and 975 units

of exchange-value are realised. Assuming perfect competition, each item will sell at the same price; 450 items sell at uniform prices equivalent to 975 units of exchange-value. A will receive 379.17 units of exchange-value for its 175 items, B will receive 325 units for its 150 items and C will receive 270.83 units for its 125 items. Table 4:1 shows that if all the conditions mentioned obtain, each firm receives the average profit rate:

Table 4:1

FACTORY	EXCHANGE VALUE RECEIVED	less NECESSARY LABOUR (C + V)	= SURPLUS LABOUR (S)	& PROFIT RATE (S/C+V)	%
A	379.17	175	204.17	204.17/175	116.7
B	325	150	175	175/150	116.7
C	270.83	125	145.83	145.83/125	116.7

In this way, the market apportions total surplus-value according to the different organic compositions.

But the assumed conditions are in fact highly unrealistic; they do not approximate reality to any great extent. If the relation between the organic composition and labour productivity varies such that, say, a 25% increase in the organic composition leads to a 36% increase in labour productivity, and if C produces 125 items, A and B will produce 231 and 170

items respectively. Assume these items are all sold under the same market conditions as before and 975 units of exchange-value are realised.

These 975 units will be allocated as follows: 428.19 units to A for an output of 231 items; 315.11 units to B for 170 items, and 231.7 units to C for 125 items. Table 4:2 again shows the results, using the procedure of 4:1.

Table 4:2

FACTORY	EXCHANGE VALUE RECEIVED	less NECESSARY LABOUR (C + V)	= SURPLUS LABOUR (S)	& PROFIT RATE (S/C+V)	%
A	428.19	175	253.19	253.19/175	144.7
B	315.11	150	165.11	165.11/150	110.1
C	231.7	125	106.7	106.70/125	85.4

The most efficient consumer of living labour (A) is rewarded by a surplus-profit whereas C is penalised for using labour in excess of the socially necessary amount. This example illustrates how firms operating at average levels of labour productivity sell their product at value, and realise in their profits the mass of surplus-value produced by their own workers.

If the assumption of perfect proportionality between supply and demand is suspended, the picture

becomes more complex. If demand for items produced by A, B, and C exceeds supply, prices for the items rise and A, B and C "siphon" surplus-value from other firms in the economy. Assume that this flow amounts to 10% of surplus-value directly produced in A, B and C. Profit rates will change as shown in Table 4:3.

Table 4:3

FACTORY	EXCHANGE VALUE RECEIVED	less NECESSARY LABOUR (C + V)	= SURPLUS LABOUR (S)	& PROFIT RATE (S/C+V)	%
A	471	175	296	296.00/175	169.1
B	346.62	150	196.62	196.42/150	131.1
C	254.87	125	129.87	129.87/125	103.9

Of course, if supply exceeds demand, some items will not sell or sell only at prices below exchange-value. In that case, a fraction of total surplus-value produced in A, B and C flows out of the sector into another. Assuming that 10% of labour consumed in A, B and C is wasted from the standpoint of social necessity, the profit rate changes again, as shown in Table 4:4.

Table 4:4

FACTORY	EXCHANGE VALUE RECEIVED	less NECESSARY LABOUR (C + V)	= SURPLUS LABOUR (S)	& PROFIT RATE (S/C+V)	%
A	385.38	175	210.38	210.38/175	120.2
B	283.6	150	133.6	133.60/150	89.1
C	208.53	125	83.53	83.53/125	66.8

CHAPTER FOUR

The preceding model approximates reality poorly in the sense that all firms produce identical use-values . A more realistic model features 3 Departments: Department 1 (firms producing capital goods), Department 2 (firms producing ordinary consumption goods), and Department 3 (firms producing luxury consumption goods). To construct this model, the figures used in Tables 4:2, 4:3 and 4:4 are combined (Table 4:5).

Table 4:5

FACTORY	EXCHANGE VALUE RECEIVED	less NECESSARY LABOUR (C + V)	= SURPLUS LABOUR (S)	& PROFIT RATE (S/C+V)	%
Department 1: Capital Goods.					
A	428.19	175	253.19	253.19/175	144.7
B	315.11	150	165.11	165.11/150	110.1
C	231.7	125	106.7	106.70/125	85.4
Department 2: Ordinary Consumption Goods.					
A	471	175	296	296.00/175	169.1
B	346.62	150	196.62	196.62/150	131.1
C	254.87	125	129.87	129.87/125	103.9
Department 3: Luxury Consumption Goods.					
A	385.38	175	210.38	210.38/175	120.2
B	283.6	150	133.6	133.60/150	89.1
C	208.53	125	83.53	83.53/125	66.8
Totals	2925.00	1350	1575.00	1575/1350	116.7

A total of 2925 units of exchange-value is produced and released through the market; 1350 units are necessary labour (value consumed in reproducing

plant, materials and wages) as against 1575 units of surplus-value. If strict proportionality obtains between the structure of demand and the use-value structure of output, the results are the ones shown in Table 4:6.

Table 4:6

PURCHASES			. TOTAL	. OUTPUTS	
V.Capital	S-Value	Rec.Capital	. PURCHASES	.	
		675.00	. 675.00	. Dept. 1	975.00
675.00	397.49		. 1072.49	. Dept. 2	1072.49
	877.51		. 877.51	. Dept. 3	877.51
675.00	1275.00	675.00	. 2625.00	.	2925.00

The market is cleared completely; 300 units of surplus-value remain for the expansion of production. Before investment possibilities can be discussed, however, the distribution of these 300 units must be known. Assuming that the sum bosses spend in Department 2 is the same for all 9 firms, each firm will lose 44.17 units of surplus-value in reproducing the bosses. The deduction of 397.5 units (44.17 * 9) from the total surplus (1,575) leaves 1177.5 units. From this total, a sum spent on luxury consumption must be deducted - 877.5 units. This sum cannot be distributed evenly among the firms because, for some, it would exceed disposable income. The easiest way to apportion it is according

to the mass of surplus-value remaining.

Luxury consumption comprises 74.5% of remaining surplus-value ((877.5 * 100)/1177.5). Using this pro-rata formula, each firm exhausts 74.5 % of surplus on the luxury consumption of bosses. The results are shown in Table 4:7.

Table 4:7

FACTORY	SURPLUS VALUE RECEIVED	less	BOSSES' ORDINARY CONSUMPTION	less	BOSSES' LUXURY CONSUMPTION	=	SURPLUS VALUE REMAINING
A1	253.19	-	(44.17	+	155.20)	=	53.82
B1	165.11	-	(44.17	+	90.10)	=	30.84
C1	106.70	-	(44.17	+	46.58)	=	15.95
A2	296.00	-	(44.17	+	187.61)	=	64.22
B2	196.62	-	(44.17	+	113.58)	=	38.87
C2	129.87	-	(44.17	+	63.85)	=	21.85
A3	210.38	-	(44.17	+	123.83)	=	42.38
B3	133.60	-	(44.17	+	66.63)	=	22.80
C3	83.53	-	(44.17	+	29.32)	=	10.04
Totals	1575.00		397.53		876.70		300.77

Adding these results to the original investment fund - reproduced in the last cycle of production - the current potential investment fund is distributed as in Table 4:8.

Table 4:8

FACTORY	RECONSTITUTED CAPITAL (C + V)	NEWLY ACCUMULATED CAPITAL	AVAILABLE FOR INVESTMENT
A1	175	53.82	228.82
B1	150	30.84	180.84
C1	125	15.95	140.95
A2	175	64.72	239.22
B2	150	38.87	188.87
C2	125	21.85	146.85
A3	175	42.38	217.38
B3	150	22.80	172.80
C3	125	10.04	135.04
Totals	1350.00	300.77	1650.77

To clear the market of all items produced in Department 1, the whole of this newly accumulated capital must be spent on capital goods. This imperative has several effects on relations in the next production cycle.

First, the organic composition of capital as a whole rises - from 675 : 675 to 975 : 675. In turn, the changed organic composition entails a higher labour productivity and output. Workers' wages remain constant while demand for goods from Department 2 remains relatively static. Because productive capacity has been enhanced, the market for Department 2 goods will glut unless investment in the sector falls. But profitability in Department 2 was 20% and 40% higher

than in Departments 1 and 3 respectively. For this reason, the current profit rate in Department 2 will be more likely to attract than to turn away investors - regardless of the consequences to the economy as a whole.

A second major change in relations occurs between investors. The dispersion of investment funds available to the firms has changed from 125 : 175 (1 : 1.4) to 133.04 : 239.22 (1 : 1.77) in a single production cycle.

In the real world, goods must not only be produced; they must also be circulated (transported to final consumers). The circulation of goods requires not only means of transport. It also requires wholesale and retail traders, banks and credit systems. Part of the total investment fund available to society is consequently tied up in these activities. But surplus-value is created only within the production process. The incomes received by people engaged in non-productive occupations are consequently paid out of social capital; they are imposts on total social capital [32]. Social capital is preserved through the activity of productive labour as is constant capital. But what is the source of profit on investments in

activities which are socially necessary yet produce no surplus-value ?

The sum of profits cannot exceed the sum of surplus-value [33]. Profits made out of non-productive activities (rents, interests, taxation, insurance, etc.) are therefore appropriations of total surplus-value created in the current production cycle. Self-employed operators producing at above-average labour productivity (in New Zealand, farmers are a good example) further deplete the fund of surplus-value. The model is adjusted to cover these activities in Table 4:9.

Table 4:9

FACTORY	EXCHANGE VALUE RECEIVED	- (C + V) & PROFIT TO CIRCULATION	= SURPLUS LABOUR (S)	& PROFIT RATE (S/C+V)	%
Department 1: Capital Goods.					
A	428.19	175 + 85.64	167.55	167.55/175	94.7
B	315.11	150 + 63.02	102.09	102.09/150	68.6
C	231.7	125 + 46.34	60.36	60.36/125	48.3
Department 2: Ordinary Consumption Goods.					
A	471	175 + 94.2	201.80	201.80/175	115.3
B	346.62	150 + 69.32	127.30	127.30/150	84.9
C	254.87	125 + 50.97	78.90	78.90/125	63.1
Department 3: Luxury Consumption Goods.					
A	385.38	175 + 77.08	133.30	133.30/175	76.2
B	283.6	150 + 56.72	76.88	76.88/150	51.3
C	208.53	125 + 41.71	41.82	41.82/125	33.5
Totals	2925.00	1350 +585.00	99.00	99.00/1350	73.3

The total volume of exchange-value is reduced by 20% to allow for "leaks" to non-productive activities essential to the economy. The impost is apportioned per item to resemble the actual pattern in which distribution costs are incurred. 2925 units of exchange-value are released through the market, of which 1350 restore the original investment fund and 585 units disappear as non-productive profits, leaving a remainder of 990. Table 4:10 shows the results after all markets are cleared.

Table 4:10

PURCHASES					. TOTAL	.	OUTPUTS	
Production			Circulation		. PUCHASES	.		
Wages	Prfts	Rec.Cap	Wages	Prfts.	.	.		
		675.00		50.00	. 675.00	.	Dept. 1	975.00
675.00	125.49		175.00	97.00	. 1072.49	.	Dept. 2	1072.49
	477.51			400.00	. 877.51	.	Dept. 3	877.51
675.0	603.0	675.0	175.0	547.0	. 2675.00	.		2925.00

From the 990 units the value required to reproduce bosses must be deducted. Following the procedure used previously (bosses' consumption divided by the number of firms), this cost amounts to 13.94 units for each firm; "uncommitted" surplus-value is thus reduced by a further 125.5 units (13.94 * 9) leaving 864.54. Bosses in the productive sector collectively consume 477.51 (48.2%) of the unused surplus. Table 4:11 shows the

results applying the same pro-rata formula as before:

Table 4:11

FACTORY	SURPLUS VALUE RECEIVED	less	BOSSES' ORDINARY CONSUMPTION	less	BOSSES' LUXURY CONSUMPTION	=	SURPLUS VALUE REMAINING
A1	167.55	-	(13.94	+	80.73)	=	72.88
B1	102.09	-	(13.94	+	49.19)	=	38.96
C1	60.36	-	(13.94	+	29.08)	=	17.34
A2	201.80	-	(13.94	+	97.23)	=	90.63
B2	127.30	-	(13.94	+	61.33)	=	52.03
C2	78.90	-	(13.94	+	38.01)	=	26.95
A3	133.30	-	(13.94	+	64.22)	=	55.14
B3	76.88	-	(13.94	+	37.04)	=	25.90
C3	41.82	-	(13.94	+	20.15)	=	7.73
Totals	990.00	-	(397.53	+	476.98)	=	387.56

250 units of newly accumulated surplus (387.56 units) are used to clear the capital goods market; 137.56 units remain to expand the volume of variable capital (increase the productive work-force or the wages of the existing one). But there is no compulsion to invest any or all of the additional fund this way. It might be hoarded or used for speculation. If the total sum is used to expand variable capital investment, the average organic composition increases from 675C : 675V (1 : 1) to 925C : 813V (1.14 : 1). Thus 387.56 units are added to the potential investment fund for the next cycle of production.

At this level of abstraction, a multitude of investment possibilities and motives exist. It is unnecessary to follow them all through however. The models, based as they are on arbitrary quantities, are introduced merely to indicate the principal relations and their internal logic. The proportionality of department size, output, levels of labour productivity, supply and demand, etc. are designed to illustrate the logic of value relations. Needless to say, the model bears little resemblance to any actual economy. A more realistic model would need to incorporate at least three additional factors.

To this point, the effects of variations in the organic composition of capital have been considered only in value terms. But the composition of capital also has a technical side, namely the relationship between the technical requirements of specific plant and machinery and living labour. Marx accordingly distinguishes between the "value composition" and the "technical composition" of capital [34]. Normally the operation of core machines in firms involves ancillary equipment, specific numbers of workers, and so on. This fact means that the introduction of new technology generally prohibits a steady incremental growth of the constant capital outlay, and hence also a smoothly

rising organic composition. The transition from the least to the most developed industrial equipment normally involves a series of steps in minimum capital investment [35].

Another factor ignored in the models is the supply of labour. It is assumed that the volume of variable capital is the sole prerogative of investors. In the real world, the number of workers available for exploitation, the skills they have acquired, and the forces they are able to bring into the determination of the wage are all key semi-autonomous variables co-determining the organic composition of capital [36].

Finally, the use-value structure of production is largely disregarded. It is assumed that capital goods produced in Department 1 always correspond to investor demand, and that consumption goods from Departments 2 and 3 always mesh perfectly with the needs and desires of consumers.

The models are not designed to prove that capitalist economies must come to a final and inevitable collapse from which they cannot recover [37]. Their sole purpose is to discover how effective demand and investment decisions must be articulated for

balanced capitalist development, and how this balance is constantly undermined by the same conditions [38].

In the final analysis, what is called "the economy" is only the way in which society allocates its resources, its stocks of "dead" and living labour. This distribution is determined by the prevailing social relations of production. In capitalist societies, the social necessity of labour is the stick and the carrot for investment behaviour. Other things being equal, when plants use more living labour than is typical for the process, they return less than the typical rate of profit, i.e. they are penalised for wasting scarce resources. If those plants respond by installing new machinery to raise their labour productivity above the average, surplus-profits may result [39] .

Economic progress under capitalism takes the form of the (more or less) permanent collapse of backward firms, branches and sectors of industry, i.e., production characterised by relatively low organic compositions. If insufficient effective demand exists to buy all output, the collapses become more widespread. Business collapse and bankruptcy will generalise into system-wide recessions if a critical mass of total output turns out to be "socially

unnecessary".

Basically the marxist explanation of breakdowns in the proportionalities essential for balanced growth is that the quest for surplus-profits results in the simultaneous over-production of use-values and underproduction of exchange-values [40]. The process is pictured in Table 4:12.

Table 4:12

	A2	A1	A3	B2	B1	C2	B3	C1	C3
Units C & V	100/75	100/75	100/75	75/75	75/75	50/75	75/75	50/75	50/75
No. Of Items	231	231	231	170	170	125	170	125	125
Profit Rate:	115.3	94.7	76.2	84.9	68.6	63.1	51.3	48.3	33.5
Investment Fund:	265.6	247.9	230.1	202.0	189.0	152.0	175.9	142.3	132.7

To maintain profit levels, firms in Department 2 cannot produce more than 1208.1 units of exchange-value, the sum of the output of the preceding cycle (1072.5) and new investment in variable capital (135.6). This implies a limit to the expansion of output; the market can only absorb an additional 66.5 items at current (exchange-value) prices. If A2 invests

all its funds in Department 2, it has the capacity to produce 350.6 items, an increase of 119.6 items (= an excess of 53.1). If B2 raises its organic composition to the level of A2, it would have the capacity to produce 266.4 items; an increase of 96.4 items. In either case, the decisions would lead to a fall in the rate of profit across the whole of Department 2.

If both A2 and B2 act this way, total output in Department 2 would be raised to 742 items, an increase of 216 items and 149.5 items above the level required for equilibrium. Such investment would absorb 117.1 of the 135.6 units of the new funds available in variable capital. But at the same time, C2 will almost certainly seek to raise its level of productivity to that of B2. The productive capacity of C2 would be expanded to 172.3 items, without any expansion of variable capital, i.e., without any increase in effective demand for those items in the system.

From the standpoint of the individual investors, these are all rational investment choices because the rate of return from Department 2 was higher than in other departments. From the standpoint of the rationality of the economic system as a whole, however, a 1 : 1.54 excess productive capacity is created if

these rational investment decisions are taken. The potential output of the Department will stand at 910 items, i.e., 317.5 items in excess of the level of effective demand.

In the capitalist economic system, every disparity creates reactive tendencies towards cancelling it out; yet the same pressures towards equalisation create further disparities at another level. For example, as investors chase surplus-profits (above average profits) investment is attracted from elsewhere in the system. The input structure of the current production cycle is always an adjustment to the output results of the preceding one, and whatever proportionality is achieved in the system is arrived at a posteriori. Because surplus-profits typically result from above-average labour productivity, new investment tends continually to lift the organic composition across entire sectors of industry, and thereby across the whole economy. In turn, this entails an increase in productive capacity; more goods are produced per unit of living labour. This progress reaches its limits when all output cannot be sold, or cannot be sold at value. Profit rates fall and investment is directed elsewhere. In this way the general rate of profit - a mid-point between continually oscillating averages - is established [41].

CHAPTER FOUR

The laws of motion of capitalist development.

The evolution of capitalist economic activity has been analysed so far mainly in terms of the forces underlying supply, demand and prices. For marxists, however, the curve of capitalist development cannot be explained in "purely economic" terms. The reason is that the value-elements and value-relations S, V, C, C/V, S/V, and S/(C+V) underlying supply, demand and prices are themselves underpinned by struggle between and within classes. The magnitudes in the marxian analytic ratios actually owe more to the exigencies of class struggle than to purely economic imperatives. By the same token, value-magnitudes summarise the correlation of forces between different economic agents at particular points in time.

To explain patterns in economic growth, the analysis of the developmental logic of value relations has to be incorporated in an analysis of the developmental logic of capitalist social relations. In other words: to understand the dynamics and laws governing the modus operandi of the system as a whole, value relations and social relations (and by implication, all social sciences) must be integrated in

a single framework [42].

The basis of this framework is the premise that the economy in capitalist societies is structured by bourgeois social relations. These relations entail that the economic process is decentralised: the power to make economic decisions is fragmented. Means of production are privately owned by different capitalists (different individuals or different groups of individuals). Output is distributed through anonymous markets. No capitalist, nor any grouping of capitalists, can know in advance exactly how much space exists in markets for their output. Even if they know the productive capacity of direct competitors, they can never know for sure whether other firms are developing products which can supplant or substitute for their own. Investor behaviour must therefore always be guided more by past results than by certainty about future conditions. In short, fragmentation of economic decision-making and competition combine to make capitalist economic activity and growth anarchistic [43].

Every capitalist (or capitalist group) is under constant pressure to measure up to conditions they can neither predict nor control. This fact is implicitly

recognised in business language, which is often borrowed from meteorology: "investment climates", "economic forecasts", "depressions", "blow-outs", and so on. Appearances to the contrary, the pressure of competition does not stem from the determination of prices in markets. Even if all markets are cleared and selling-prices for similar goods are uniform, relentless competition to extract surplus-profits persists. The origins of this competition lies in the privatisation of capital, of decentralised investment decision-making and the resulting inevitable uncertainty about future economic conditions. The compulsion to compete is external to the desires, preferences or requirements of particular capitalists, i.e. a consequence of the peculiar institutional "organistion" of the capitalist economy.

The need to compete pervades other social institutions. In education, for example, failure in a competitive public examination is taken as a signal that further schooling would waste scarce social resources. The compulsion to compete becomes so widespread in bourgeois society that it is psychologically internalised. Competitiveness becomes so ingrained that it no longer appears as an external drive; it takes on a life of its own in consciousness.

Consequently it appears both a natural , inescapable feature of human nature and a desirable (even enjoyed !) aspect of life.

In conventional economics, and more generally in bourgeois art and literature, economic competition is portrayed as a simple struggle between firms over profits [44]. But before the struggle over the redistribution of surplus-value can be waged, another must already have been won. The very existence of surplus-value presupposes the competition between bosses and workers in firms, which decides the level of surplus labour. The two sets of competition operate in tandem to produce what marxists refer to as the "laws of motion" of bourgeois social relations [45]. These laws are reducible to four basic ones.

Law I: permanent revolution in labour productivity.

Each capitalist firm, conglomerate and nation must constantly keep pace with technological progress to avoid being crushed under the wheel of competition. Each production unit must establish and maintain a margin of productivity relative to competitors. This margin serves several different but interrelated purposes. One is to soften the blow of a sudden fall

in prices. As shown above, glutted markets lead to lower profit rates. Firms with relatively high productivity levels are better equipped to handle periodic falls in profitability. If the profit rate of a firm is already low and a sudden downturn in prices occurs, situations arise in which income will not cover costs; to stay in production means operating at a loss. Firms with the highest level of labour productivity are not only best insulated against situations of over-supply, but also best equipped to take advantage of under-supplied markets, rising prices and profit rates.

A certain level of productivity can also open up new markets, or give entry to different parts of existing markets. Production of home computers, for example, became possible through a reduction of production costs to the point where they could be sold at prices ordinary consumers could afford. Finally, relative margins in productivity can allow one firm to occupy, for a time, a dominant market position. Threats to cut prices, for example, can compel less productive competitors to cut production. In this way, the most advanced firm can establish production and sales cartels to their advantage. In the long term, however, competition undermines such arrangements [46].

In sum, competition exercises a permanent compulsion to increase levels of investment. Each firm is systematically forced to raise its level of technique and to adopt methods of organising plant which optimise the extraction of surplus-value from the workers employed.

Law II: Continually rising organic composition of capital.

This law grows directly out of the uninterrupted revolution in labour productivity. The constant capital component of the investment fund must grow at a faster rate than the variable capital component. The reason is that, other things being equal, the productive capacity of living labour is determined by the quantity and quality of tools and technology available to the workers.

In the short term, labour productivity can be raised without an increase in the organic composition. Firms can re-organise the labour process to speed up operations and minimise down-time (Taylorism, Fordism, etc.). In addition, if labour productivity in the capital goods sector rises more rapidly than in the consumer goods sector, rising labour productivity is

consistent with a fall in the organic composition.

In the longer term, however, these counter-tendencies to the general law are exhausted by the relentless pressure of competition: the new ways of organising labour and the relatively cheap machinery are generalised throughout the economy. Once this process is complete, competition will again demand higher organic compositions. Other things being equal, rising organic compositions lead to falling profit rates. The quantitative relation between the organic composition and the rate of profit is shown in Figure 4:3.

Figure 4:3

	Time 1.	Time 2.	Time 3.
Organic Composition:	C/V	(C+1)/V	(C+2)/V
Profit Rate:	S/(C+V)	S/((C+1)+V)	S/((C+2)+V)

It is obvious that if S and V remain constant in the equation, each rise in the organic composition means a fall in the rate of profit.

CHAPTER FOUR

Law 3: Concentration of capital

This law is a consequent of the interaction of the above laws. Competition between firms forces the application of ever more plant and machinery per unit of living labour, which implies the concentration of capital.

Small weak firms are susceptible to expropriation by large strong ones. Firms which continually fail to attract the average profit rate are eventually unable to keep pace with the ever-increasing constant capital investment required to produce profitably in the sector. These firms are then swallowed by other firms or go bankrupt. In either case, the total number of autonomous firms diminishes. At the same time, the ever-increasing volume of constant capital required to establish new and competitive plants acts as barrier to emergence of new firms.

Critics often claim that marxists fail to consider the effects of the dispersion of share-ownership with the emergence of joint-stock companies. The public issue of shares is seen to lessen the concentration of capital ownership [47]. The marxist reply draws attention to the difference between real, i.e. actual

and formal, i.e. juridical ownership.

Buying shares in a company means ceding rights to control the funds involved to a board of directors, in exchange for a share of whatever profit the company may attract. Public companies are a means by which sufficient capital can be brought together to set up or stay in business. Public companies allow a tiny fraction of the legal owners to co-ordinate vast sums of capital. Thus the proliferation of share ownership in reality assists the concentration of capital in fewer and fewer hands: it extends the power of a few large shareholders, enabling them to command sums of capital many times that which they formally own [48].

Law IV: inescapable struggle between classes.

The first three laws demand an expanded investment fund. This expansion presupposes the accumulation (re-investment) of surplus-value. To this end, the mass of surplus-value must expand at least as fast as the mass of investment funds. Yet increasing the constant capital outlay leads to falling rates of profit. To raise the mass of surplus value, capitalists are forced to raise the rate of surplus value.

Basically there are two ways in which this can be achieved. The work-day can be extended; other things being equal, a longer work-day means more unpaid labour. Alternatively, necessary labour can be reduced, i.e. the labour-time required to reproduce the wage is abbreviated. Both mechanisms imply the impoverishment of the worker relative to the capitalist. Workers are continually pressured to accept a smaller share of the total exchange-value of output they produce. The struggle between the bosses and the workers over the amount of unpaid labour that must be worked is the fundamental axis of class struggle.

In this struggle, the classes bring into play different levers. The most powerful lever of the bosses is their capital. It allows them to be "economically active" only when conditions suit them. Bosses can withdraw from the production process, as they can survive by consuming part of their capital. Workers' wages allow for little (if any) savings because almost all of the wage is consumed to reproduce the capacity to labour. To survive, workers are forced to be "economically active" more or less continuously.

A second, complementary lever which contributes to

the strong institutional position of the bosses is that competition between bosses is reproduced in competition between workers. Every worker must compete in labour markets for jobs. If each worker can be pitted against every other, wages can be forced down and/or the number of unpaid labour-hours increased. The wage level is always determined both by economic and extra-economic factors, which together add up to the relationship of forces between the classes. In the last instance, wage levels are a function of working class solidarity and organisational strength. The formation of workers' social and political organisations can, to a certain degree, offset the inherent inequality between the classes [49].

One function of trade unions is to mitigate competition between workers. Unions set groups of workers against particular bosses; trade unionism signifies one collective response to institutionalised class-inequality. The establishment of labour and social democratic parties is an attempt to extend the sectoral solidarity of unionised workers to the class as a whole. These institutions and innumerable other forms of association are crucial determinants of the relationship of forces between the classes. But the role of extra-economic factors in setting wage levels

must not be exaggerated.

The effectiveness of unionism is largely a function of the level of unemployment. The unity and strength, and consequently the bargaining power of workers corresponds largely to the rhythm of capitalist development. During periods of economic expansion, the number of unemployed workers shrinks; bosses are forced to compete among themselves for the labour supply. Workers' power is greatest during periods of full employment. The longer the period of increasing demand for labour, the easier it becomes for workers to wring concessions out of bosses through collective (sometimes even individual) action. The degree to which this advantage can be pressed home depends on the organisational strength attained in the past.

Collective action becomes less effective in the face of a large pool of unemployed, non-unionised labour forced to accept bosses' wage offers simply to survive. Unionism can cause competition between groups of workers as much as it lifts the struggle against the bosses. One example here is the conflict between craft and industry unions. To the extent that it is scarce, skilled workers are often somewhat insulated from the effects of unemployment. Similarly, if unemployment is

widespread, strong unions are as likely to protect their members' jobs against the unemployed as they are to struggle for the interests of the class as a whole.

The level of employment is therefore a crucial weapon in the class struggle. Marx considered that the unemployed function as a "reserve army of labour" for the bourgeoisie -"reserve army" in the sense that capitalists can use the unemployed as a lever in the struggle between bosses and workers, to exert a downward pressure on wages. The level of unemployment itself is a function of the long-term dynamics of capitalist development and the trade cycle.

Competition between bosses is in the end won or lost according to the ability to replace workers with the products of their labour. The continual replacement of workers by machines means that ever-fewer workers are employed to produce more and more goods. The ultimate conclusion to this process is an absolute decline in total productive employment. A counter-tendency to this trend results from increased labour productivity. This makes possible the conquest of new markets through the penetration of capital into non-capitalist activity and new geographic areas. The opportunities for expansion here are finite.

Farmers, self-employed operators and petty proprietors lose markets when they cannot compete with large capitalist firms. For this reason, the long-term trend towards declining productive employment is accompanied by a trend towards the integration of all economic activity in the capitalist mode of production. By implication, the intermediate strata are proletarianised and an ever-increasing proportion of the total economically active population falls in the working class.

But the steady increase in capitalist productivity reaches its absolute limits well short of generalised automation. Automated plants do not use labour and therefore do not enhance the capacity of labour to produce. Living labour is not employed so unpaid labour (surplus-value) does not appear. As surplus-value is the sole source of profits, the greater the weight of automation in the total economic activity, the smaller the mass of surplus-value and the lower the general rate of profit. But profit is the motor for investment in bourgeois society. The capacity of capitalism to raise productivity therefore ends short of generalised automation. The long-term fall in employment reaches its limits before dead labour totally replaces living labour [50].

CHAPTER FOUR

In terms of the immediate class struggle, short-term fluctuations in employment are obviously more important than the long-term trend. In the short term, the level of employment is primarily determined by the level of economic activity, i.e. investment activity and rates of profit. In other words, employment levels and therefore the conjunctural strength of the classes is governed by the given phase of the trade cycle [51].

Marxist theory and trade cycles

It was shown in chapter one that the curve of capitalist development in New Zealand features recurrent crises. Slumps and booms succeed each other throughout the half-century covered by the data. They constitute the most general feature of capitalist development, being equally apparent during epochs of faster and slower growth. From a purely economic standpoint, the main difference between long waves of expansion and waves of slower growth is that in the former, the upturns are stronger and downturns weaker than in the latter. In a nutshell, the marxist explanation of trade cycles is that the motor of capitalist growth - profitability -inevitably undermines some of the preconditions for even growth

identified in the models above.

Marxists can agree with demand-siders that downturns in economic growth can be caused by the over-accumulation of investment funds. But they deny that the state can overrule all disproportionalities simply by regulating aggregate demand to mesh with aggregate supply. If the state intervenes to boost demand to combat over-accumulation, it must necessarily redistribute income from investors to consumers, thereby reducing the rate of profit. On this point, marxists are in agreement with the supply-siders: when the rate of profit falls, the propensity to invest, and hence economic growth, is undermined.

For marxists, the notion that a simple macro-economic manipulation of incomes can redress all the micro-level disproportions in one fell swoop is naive; it ignores what is fundamental to the capitalist mode of production, namely institutionalised competition and anarchy. In the last instance, the marxist theory of crisis reduces to the claim that it is <u>impossible</u> to maintain the requisite proportions for harmonious, long-term growth.

There is a plethora of marxist theories which seek

to explain the downturns and thereby the cause of trade cycles [52]. Many marxists attempt to explain the general phenomenon of recurrent downturns in terms of a single disproportionality regarded as the root cause: "under-consumption", "over-accumulation", "over-production", etc. [53]. This tendency to look for a single recurrent factor is motivated by the observable regularity of trade cycles. In our opinion, however, there is no single factor which can explain every trade cycle. In particular trade cycles, a number of different disproportions can and do arise. The general theory of crises requires only an explanation of how disproportionality as such occurs, not that a particular disproportion must inevitably recur.

In the last instance, all that is required is to show that capitalist growth is inevitably uneven and that this will undermine equilibrium somewhere in the system. Ernest Mandel formulates the social-structural cause for uneven growth as follows:

> What is rational from the standpoint of the system as a whole is not rational from the standpoint of each firm taken separately, and vice versa. When the market is in a phase of strong expansion, all firms must attempt to cut themselves a larger slice of the pie; they thereby precipitate "over-investment" and excess capacity. When there is a slump, it is absurd for each individual firm to increase productive capacity. On the contrary, the losses and the fall in prices

> (gold prices) must be reduced., which means that production must be reduced. This in turn leads to cumulative "under-investment" at the macro-economic level [54].

On this foundation, a whole range of events and mechanisms can interact to produce the unfolding of particular trade cycles, and affect their rhythm. Which of these are decisive in a given situation can only be established through empirical investigation. A full analysis in this area requires an understanding not only of the production process but also of the systems of credit, circulation, distribution and exchange - at the level of the national economy and of the world economy in which it is inserted. Analysis of all the distinct trades cycles is beyond the scope of this study which seeks only for an explanation for the long boom and the current crisis in capitalist development.

CHAPTER FIVE

FROM BOURGEOIS TO MARXIST CATEGORIES

It is one thing to show that a theory is in principle capable of explaining the successes and failures of its rivals. It is another to show that it actually does provide a superior alternative explanation of the facts. To assess the empirical strength of the marxist theory of capitalist development, it must be tested against valid data. This imperative poses a number of crucial methodological issues.

Most marxists agree that the differences between conventional and marxist economic analysis are substantive and systematic. These differences, moreover, are seen to manifest themselves at each stage of enquiry: the concrete categories used are different, the abstract concepts are different and -unsurprisingly -the end results are different. For all that, marxists have paid remarkably little attention to the qualitative and quantitative relationship between the statistical "concepts" used in organising official data

and the categories of Marx's Capital [1].

The difficulties involved in reconciling the existing body of statistical data with these categories have had an tremendous impact on the development of marxist theory and marxist social scientists. Broadly speaking, two different approaches to the problem can be distinguished. Pursued consistently, both lead to revisionism of one sort or another [2].

One approach has been to retreat from substantive empirical analysis to critical (in the last instance moral) philosophy, via a total rejection of the concepts used by "official" social scientific analysis - either on the ground that they are "contaminated" by the theoretical structure in which they are embedded, or because they are considered meaningless. The evidence that bourgeois analysis brings to light is systematically ignored, by burying it in arguments about the origins and meanings of terms, or simply by dismissing it as bourgeois ideology unworthy of rational scientific criticism [3].

The other approach involves an attempt to find categories in official statistics which resemble (or appear to resemble) marxist ones, and use them to carry

out marxist analyses. Elements of the concrete categories of the national income accounts are treated in a straightforward manner as indicators of the basic categories developed by Marx in his critique of bourgeois economic theory. Thus, for example, aggregate wage and salary payments are directly equated with variable capital; fixed capital stock is assumed to correspond to the marxian concept of constant capital; company profits are equated with surplus-value; etc. The profits/wage ratio which can be derived on this basis is then taken to indicate the rate of surplus value, and the ratio of fixed capital assets to wages is said to reflect the organic composition of capital, etc. [4].

Both approaches avoid any genuine confrontation between marxist theory and empirical data *. The first evasion tactic mentioned is at best a prelude to, and not a substitute for, an empirical science. The second has to its credit at least that its major claims are disciplined by empirical events. At the same time, this

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* To be sure, not all researchers adopt this simplistic approach. The more sophisticated among them attempt to adjust national accounts data to make the correspondences stronger, for example by considering the effects of direct and indirect taxation on wages, and then variable capital. But this is the exception rather than the rule [5].

discipline is conditional on an assumed correspondence between bourgeois and marxian categories.

Because Government statistics are the only substantial source of empirical data on nation-wide economic activity, marxists seem to be faced with an insuperable dilemma - "damned if they do science and damned if they don't".

If it is possible to carry out marxist analyses on the basis of keynesian concepts (net output, added value, capital formation, gross wage payments etc.), all claims that systematic differences exist between marxist and orthodox analyses are dubious to say the least. If, on the other hand, it is not possible to use keynesian categories, official economic statistics will have an adverse effect on any marxist analysis: because of systematic differences between keynesian and marxist theoretical structures, and the keynesian basis of official statistics, the supposedly "marxist" analyses will remain trapped in the conventional accounting concepts.

There is only one way out of this impasse: the a priori assumptions underlying both positions must be rejected. Official categories should neither be

accepted uncritically nor simply rejected out of hand. It seems undeniable to us that this was exactly Marx's own approach to the "critique of political economy". The real scientific task is (a) to understand the aggregation techniques used by official statisticians; (b) to discover the concrete activities subsumed under the keynesian headings; (c) to disaggregate them into their constituent elements; and (d) to construct new aggregates from the disaggregated data which approximate the quantities and qualities of Marx's Capital as closely as possible. This task is a challenging one. The many technical and conceptual difficulties involved perhaps explain why, in the face of the data, so many well-intentioned social critics simply abandon scientific research for the security of critical philosophy. This however is not an option for materialists, who defend theories precisely because they explain real experience [6].

But the extent to which keynesian data can be transformed into marxist categories cannot be known a priori. It can be established only post fectum, after direct, practical engagement with that data. Whatever the problems associated with official statistical data may be, their qualities and quantities do reflect some activity on the part of real people in concrete

situations. Marxists - or at least those marxists engaged in political action - have always accepted the minimal validity and significance of official statistical data in this sense [7]. The important methodological conclusion to be drawn is that the primary goal for research should not be to replace this data (something which in practice is seldom possible anyway). It is rather to reconstruct and reinterpret the data already available - to make it meaningful in the light of marxist theory.

A perfect correlation between marxist categories and official statistics cannot be expected, and no illusions should be entertained about the final results in this respect. But revolutionary marxists are not positivists. Only positivists contend that without "perfect" data or "perfect" experiments substantive conclusions cannot be drawn [8]. Real scientific activity unfortunately never begins (or, for that matter, ends) either with perfect theoretical categories or with perfectly recorded "observations" (data). Indeed, science can be seen precisely as the attempt to bring the two in closer correspondence - to reunite them in a systematic, conscious way.

Having analysed the empirical material in its

interconnections, it might be discovered that for all practical purposes the quantitative relations between bourgeois and marxist aggregates are more or less fixed - that e.g. Net Output always underestimates surplus-value in definite proportions expressible in mathematical functions [9]. In itself, such knowledge could prove extremely useful. It would equip marxists with a "ready reckoner" enabling them to understand and interpret the official version of economic history while it is being made, in a proper marxist way. There is moreover no reason why, after a comprehensive transformation of official statistics, a marxist model of the economy could not be constructed, allowing quantitative predictions and projections about future social and economic trends [10].

Because there is still a great lack of serious marxist economic research in New Zealand, both possibilities remain "music of the future". We are in the unenviable position of pioneering new territory. For this reason our empirical investigations can only be foundational. This study purports neither to demonstrate empirically all economic laws discovered by Marx nor to explain "everything" about capitalist development in New Zealand. At best, its results can contribute just one nail to a coffin for a degenerate

and decaying social order. They neither represent our final word nor imply a fixed research strategy for others to follow. Other researchers interested in the area should criticise, refine and extend the findings reported in this study. Thus detailing the seemingly tedious and trivial statistical procedures and conceptual issues involved in the transformation of bourgeois into marxian aggregates is just as important as the findings commented on in chapter 6 below.

Selecting the data base

The first problem marxists confront in grappling with the economic data concerns the distinction between exchange-value and price. It is legitimate to assume that, in the last instance, price equals value. This "last instance" comes when all the economic interactions between production and final consumption have taken place. As explained in the previous chapter, the social necessity of a product is determined *a posteriori* in the *final* market - it is possible to determine the magnitude of surplus-value realised in a commodity only after all intermediate costs and profits have been accounted for.

What is true for one commodity is true for all

commodities: the mass of surplus-value created in a production cycle can only be determined after all commodities produced in that cycle are likewise sold to final consumers (or proven unsaleable). Without knowing the profits appropriated in intermediate transactions (loans, transportation, wholesale and storage, rents, insurance, retailing), total surplus-value cannot be estimated. As a substantial proportion of all goods produced in different capitalist countries is sold to final consumers in other (capitalist and non-capitalist) countries, the optimal source for a marxist analysis would be aggregate accounts of income and expenditure for the whole world. Such accounts however do not exist [11].

The most obvious data sources are therefore the national accounts. But these also present insurmountable problems for our project. New Zealand social accounts have always reflected the dominant theory of the day. As a result, the aggregation techniques have often been revised in important respects and new measures introduced. No single measure remains wholly constant for a long period of time, say fifty years. More importantly, available aggregates lump together items which, although qualitatively different from a marxist standpoint,

cannot be separately identified in the accounts [12].

These inconsistencies are problems for marxists and keynesians alike. During the 1930s and 1940s in particular, keynesians made a noble effort to reconstruct national income measures used before World War II. It is unlikely that their work will be completed in the near future. Keynesians no longer command key positions in the institutions responsible for the collection and processing of relevant data. Anyone attempting to complete their work today is barred from doing so, either because the data base required for proper estimates has been destroyed or, insofar as it has been preserved, (taxation data, etc.) because of lack of access to them [13].

The next best set of official data for the study can be obtained from the annual reports on manufacturing in New Zealand (Factory Production series). The construction of consistent time series is certainly no simple matter here either. But an examination of the classifications used over time show that they (a) do not in principle rule out very long series, and (b) are amenable to a "marxist translation". At the other end of the scale, however, there is also an obvious drawback. The results will

underestimate the mass of surplus-value produced in the sector because the surveys abstract from all transactions between production and final consumption. All that can be estimated is the magnitude of surplus-value returned to the factory owners. This limitation does not adversely affect the general rate of profit in manufacturing, which is a crucial variable for the marxist explanation for the curve of capitalist development. It does, however, have the unfortunate consequence that the rate of surplus-value is underestimated by an unknown (and undoubtedly historically variable) extent. This fact must be accorded its due importance in any comparison of the intensities of exploitation and class struggle.

For all their drawbacks, factory production data are nevertheless the best available source. They therefore comprise the principal source for this study. Their general characteristics and main aggregates were already discussed in chapter three. The data base naving been selected, three tasks remain. Data have to be made consistent for the whole period; estimates must be interpolated for missing data; finally, data has to be disaggregated and re-aggregated to approximate the marxian categories. Operations relating to the first two are reported on in Volume 2. Our concern in this

chapter is only with the general principles involved in the translation of the "bourgeois language" of official categories into the language of marxian analysis.

These principles are by no means self-evident or uncontroversial. Different authors using the same marxist conceptual apparatus arrive at very different results and conclusions. The small amount of marxist economic research done in New Zealand is no exception to this rule.

A search for New Zealand literature on the topic yields a grand total of four. The first is a lecture by Harry Holland, delivered at Victoria University in the early 1920's, and subsequently published as a pamphlet entitled The Marxian Theory of Value [14]. The second, a 1978 article entitled "Towards a Class Analysis of New Zealand", is an attempt by Dr Rob Steven of Canterbury University "to classify gainfully employed New Zealanders according to their interests in capitalism, socialism (or both)..." [15]. The third is an undated and unpublished paper by Ross Hampton, a Phd student at Auckland University, under the title "The development of New Zealand industrial capital: organic composition and the rate of profit". Factory production data are used by each of these authors to make

their analyses. Finally, there is a book by W. McAra, a veteran member of the Communist Party of New Zealand, with the imposing title Laws of the New Zealand Socialist Revolution [16]. McAra's approach differs in that he uses data taken from public company reports. With the exception of McAra, the aggregation principles adopted by each author have been used to create long-run series for quantitative comparisons with our own series. Additional series have been constructed using the method of Anwar Shaikh of the New School for Social Research in New York, again for comparative purposes [17].

For the sake of clarity, the necessary dis- and re-aggregation of official data is discussed separately for each of the key variables, which are brought together in the marxian ratios at the end. Where pertinent, the alternative approaches of the authors mentioned will be also be evaluated.

Persons Engaged

In Factory Production statistics, "Persons engaged" refers to all those who derive their main income directly from participating in the activities of establishments covered. The category excludes persons

engaged in selling factory output (e.g. sales office staff, salesmen) and distributing it (e.g. warehouse workers, carters engaged solely on outward delivery). Variable capital equals the total value required (socially necessary) to reproduce labour power, i.e. net wage and salary payments to productive workers. To determine the volume of variable capital, distinctions must consequently be drawn (a) between workers and bosses, (b) between productive and non-productive workers, (c) between wages and salaries of productive workers and total wage and salary payments, and (d) between the gross and net incomes of productive workers.

Productive Workers

There is a continuing debate among marxists about which concrete labour activities in bourgeois society should be classified as productive and which as non-productive. Non-productive labour in the marxian sense is not "unproductive" labour, i.e. labour expended without any result whatever. For Marx, the defining characteristic of productive labour is that it is surplus-value producing labour. But apart from this definition, he supplied no single, unambiguous

operative criterion to distinguish productive from non-productive concrete labour activities.

In some texts, he distinguishes between productive and non-productive labour in terms of whether or not a material use-value and/or a commodity results from the given labour process. This criterion poses the empirical problem of which products of labour should be counted as material use-values or as commodities. There is a broad consensus among marxists about a majority of occupational categories, but some categories (e.g. producers of certain services) remain the subject of controversy. The debate is interesting and of some quantitative significance for any empirical analysis of the production and distribution of surplus-value in a national economy. Good discussions of the problem are provided by Shaikh and Freeman [18].

In relation to this study, however, the entire controversy is rather esoteric and of no immediate relevance. Most activities in dispute (transport & communications, services of various kinds, entertainment etc.) are not covered by the factory production survey. Such precisions as can be made are very limited. The reports only allow for the disaggregation of "persons engaged" into proprietors

and employees, and within these broad categories between managers and overseers, accountants and clerks, technicians, and wage earners.

Proprietors (self-employed operators) are not productive workers under any conditions, because they do not produce surplus-value. Managers and accountants are treated in our series as non-productive workers because generally they do not produce material use-values. The function of clerical staff is to regulate the circulation of inputs and outputs. On this ground they are likewise treated as non-productive. Only the remainder - wage earners (factory operatives) -can be regarded as productive workers.

These classification principles obviously do not encompass the complexity of the real world. For example, caretaking and cleaning in factories is included as productive labour in our definition. Other things remaining equal, this inclusion implies an over-estimate of the number of productive workers. The fact that most workers perform some non-productive functions during part of the working week has the same effect. On the other hand, many overseers and even managers of small firms engage in some productive work.

Some of our more generous definitions are thus compensated for by too narrow ones - to an unknown extent. Prior to 1925, "persons engaged" were classified by "class of employment", according to distributive, administrative or productive function. From 1918 to 1923, "productive" workers in official data ranged from 87.7 percent to 89.1 percent of persons engaged. Relative to these magnitudes, our definitions undoubtedly underestimate the size of the productive workforce (see also Volume 2).

In all probability, the approach taken will not satisfy the (impossibly high) standards of marxist purists [19]. Nevertheless it is the best that can be done with the available data. In any case, to demonstrate the existence of capitalist laws of motion, the exact quantification of absolute magnitudes of productive labour (or true rates of exploitation) is not vital. For this demonstration it is necessary only to identify changes in these rates over time. The primary purpose of marxian analysis is after all to supply information about changes in rates of profit, in levels of class struggle, in the rhythm of economic activity, and so on - not to describe the world in every finicky detail.

To anticipate our results, let us assume a margin of error equivalent to 10% of persons engaged, and that the rate of exploitation is 500S/1000V. The range of discrepancy lies between 500S/900V and 500S/1100V, and the maximum error is 0.05 (1%). This maximum error reduces further in the rate of profit because constant capital is included in the denominator. Let us now assume an organic composition of 18C/1V. The profit rate will be 500S/(18000C + 1000V) or 26.3%. In this case, a 10% error in estimating the number of productive workers means an error of only 0.2% in the rate of profit -hardly likely to have any determinate or indeed observable effect on the curve of capitalist development.

We may conclude from this example that the intensity of debate about the correct definition of productive labour and the quantitative significance of the error margins is out of all proportion. Remarkably the same researchers who make much of the productive/non-productive distinction (e.g. Steven) ignore such things as taxation, profit on intermediate transactions, rent and interest payments in calculating "marxian" ratios. But these items exert a much more powerful and misleading effect.

CHAPTER FIVE

Taxation on ordinary wages in New Zealand is around 30%, i.e. three times larger than any likely margin or error resulting from our definition of productive labour. The estimates in this study may be too low or too high. But at least we can be reasonably certain that the discrepancy is consistently reproduced over time; any change registered will relate to variable capital. But if taxation is not excluded, and bearing in mind that taxes on productive workers' wages increase from nil (1930) to 30% (1980s), the discrepancy does not remain constant over time; changes in the tax rate will induce changes in the level of variable capital.

Even if perfect distinctions between productive and non-productive labour could be drawn, the exact rate of exploitation cannot be determined unless the magnitudes of transfers of surplus-value to and from the sector are known. The problem of the correct precision of productive labour pales into insignificance when placed next to the problem of tracing flows of surplus-value in the world economy.

Hampton ignores the distinction between productive and non-productive labour altogether, on the ground that the fraction of wage-workers in Persons Engaged

does not change significantly (according to his estimates, 81.6% in 1931 as against 83.0% in 1971) [19]. Holland uses the bourgeois output variable Value Added for his computations and refers to the number of "hands" employed [20].

McAra argues that "Government Statistics omit many facts; preventing a real understanding of the exploitation of N.Z. workers". Thus he "utilise[s] some extracts out of the Balance Sheets of a few major units of Foreign Finance Capital." [21]. Why should the balance sheets of these companies be more amenable to marxist analysis than Government statistics ? "Primarily, such Giants are not afraid to show some of the Laws whereby the system operates. They count on the fact that very few workers concern themselves with these Laws" [22]. It is with some surprise therefore that we discover, in the "specific examples of wealth created by the labour of N. Z. and Australian workers, and how it is distributed", McAra uses exactly the same accounting techniques as the official statisticians. He begins with the total sales of a company, subtracts the cost of raw materials and services (Added Value), and then wage and salary payments to arrive at surplus-value (new Added Value). The rate of exploitation is the ratio of new added value to wages and salaries,

i.e. Holland's solution.

Steven's primary preoccupation is with unequal exchange and its effect on class structure - in order to discover who has an interest in socialism, capitalism or both. Much of the debate about productive and non-productive labour is in fact more concerned with this political problem - the identity and physiognomy of the working class - than it is with marxian economic analysis. For Steven, there is the bourgeoisie, which includes "general managers, factory managers, managing directors, and so on, all of whom can be safely included as among capital's top functionaries" [23]. Such people "control capital to such an extent that they can largely avoid productive work" whereas foremen and other low-level supervisors "can within limits determine the intensity of other workers' labour process", "are typically engaged in the same kind of work as those they supervise", and "have very limited interests in capitalism" [24]. For Steven, persons engaged are either productive workers who produce surplus-value or economic agents who derive their income from surplus-value. This notion, in our view irreconcilable with marxism, leads directly to the problem of the so-called new middle class, i.e. the problem of finding a niche in the class structure for

those who produce no surplus value but nevertheless derive their income in the form of wages and salaries - rather than profits. The issue at stake, which is pursued further below, is whether all wage-earners are members of the working class, or just productive workers, i.e. the "industrial proletariat".

Variable capital

Variable capital is the sum outlaid to reproduce the capacity of productive workers to continue producing value and surplus-value. The total gross income of productive workers is obtained, by subtracting the wages and salaries paid to non-productive operatives from the total wage bill. Gross income however is not variable capital. The reproduction cost of productive workers is equivalent to their net wages ("take-home pay") plus their share of the social wage.

If the reproduction cost of productive labour is equal to the total cost of all goods and services necessary to reproduce workers, and workers can buy all of these with their net wages, the difference between net and gross wages cannot be considered part of

variable capital. But if net wages are insufficient to cover these costs, then variable capital must be supplemented by some other source (a social wage).

Gross and net incomes

By definition, variable capital excludes taxation on wages. From the marxist standpoint workers do not pay taxation: income tax ostensibly deducted from gross wages comprise a part of surplus value, namely that part the bourgeois must reserve to maintain their state. But as the notion of the "social wage" already suggests, part of tax revenue collected by the state is at times used to subsidise workers' consumption. Strictly speaking, part of workers' total income is appropriated for socialised consumption, i.e. indirect and collective rather than direct and individual consumption.

The social wage acts as enormous insurance cover, extended to the whole of the working class - the small sums contributed by all workers yield a fund from which payments can be made to those among them suffering unemployment, sickness, accidents, other inabilities to work (maternity leave, child benefit, old age, etc.). the technical problem now becomes how to adjust the

gross wages and salaries of the productive workers for the negative effect of direct taxation and the positive effect of the social wage on the absolute figures. This problem can only be solved at the hand of an understanding of the historical origins of the social wage.

Prior to 1938, ordinary working people in New Zealand did not pay income tax. Their annual wage did not reach the level of personal income exempted from tax. From 1930, they were required by the Unemployment Act to pay levies on wages received. The levies were used to pay unemployed workers. These levies present no particular problem in determining the level of variable capital because they comprised the socialised wage-component of productive workers. Until 1938, gross income of the productive workers is variable capital . Ordinary wages and salaries have been subject to income tax since 1938. Income tax legislation has undergone numerous changes. These can be traced through official publications. Despite brief fluctuations, the clear historic trend is towards a growing disparity between the gross and the net wage.

The period 1938-70 breaks in two parts, the turning-point being 1957. From 1 April 1958, wage and

salary earners "paid" income tax by instalment. Pay as You Earn (PAYE) tax was deducted from income as it was received under the Income Tax Assessment Act 1957. In anticipation of the PAYE system, no personal income tax was levied in 1957.

Deducting tax for the period 1938-57

To deduct income tax from the total wage bill for productive workers prior to 1957, data on income tax assessments by income groups tabulated in Income and Income Tax reports is used. Total income tax "paid" by wage and salary earners with annual incomes at levels similar to productive workers is calculated. Because female workers were paid only a little over half the wage of male workers at the time, it is necessary to treat male and female workers separately. Dividing total tax "paid" by the number of workers in the given income group, multiplying the result by the total number of productive workers identified in the factory production series, and adding the results for males and females together, yields the approximate total tax which would have been levied on the gross incomes of all productive workers.

CHAPTER FIVE

Deducting income tax from 1957

Since the advent of PAYE tax in 1957, the tax rate and all exemptions allowed are available from Official Yearbooks. As before, total taxation is determined for annual gross incomes earnt by male and female productive workers separately. The annual gross wage is divided by 52 to arrive at the average weekly wage. Income tax liability can then be calculated using NZOYB tax tables. A remaining problem is that of tax "exemptions": allowances for dependent relatives (spouse, children etc.), school fees, union fees, house-keepers (under certain conditions), tool, clothing and travel allowances, etc. Income and Income Tax data permit the average exemption for recipients in different income groups to be calculated. By subtracting these exemptions from the liability to personal income tax previously established, a close approximation is achieved to actual personal income tax "paid" by the average productive worker.

The social wage

To establish the value-cost* of reproducing the

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* the value-cost of reproducing labour power refers to the money outlay by capitalists. It does not include non-monetary costs met by the workers and their family, such as domestic labour, tending home gardens, house and car maintenance, etc. [25].

capacity of productive workers to labour, it is not sufficient to subtract taxation from gross incomes. Variable capital equals the net income of productive workers plus the social wage. This social wage must somehow be separated from taxation to establish the volume of variable capital. How to assess the magnitude of this fraction is by no means obvious. Various approaches are possible.

In this study, the social wage is equated with the social security charge first levied under the Social Security Act 1938 (SSA). In its first year in office, the First Labour Government passed the Employment Promotion Act (May 1936) consolidating in one statute all legislation dealing with unemployment relief [26]. Responsibility for assessing and collecting the Employment Promotion Tax (EPT; introduced December 1930) was conferred on the Commissioner of Taxes [27]. The EPT was abolished after the introduction of the Social Security scheme. The SSA substituted a system of monetary benefits on a contributory basis for a system of non-contributory civil pensions. It thereby inaugurated a system of medical, hospital and other benefits [28].

Provisions of the Act were financed by a separate Social Security Fund (SSF) in the Public Accounts.

Revenue for the fund was collected *via* a special tax on salaries, wages and other income (including company income). Initially, the social security charge was levied at the fixed rate of one penny for every 1/8d or part thereof of income. The levy on salaries and wages was raised in 1946 to 1/6d in every pound earnt, i.e. a rate of 1 : 13.33 * [29].

The Income Tax Assessment Act 1957 incorporated the social security charge into PAYE tax. It was written into the PAYE deduction tables "at the rate hitherto obtaining" (1/6d in the pound) [30]. Assessment for accounting purposes of the social security income tax continued until 1969 [31]. In this study, the social wage is determined as 1 : 13.33 of the gross income of productive workers.

The procedure is not satisfactory in two respects. For one, old age benefits and some other non-contributory benefits were available to working class people before 1938, i.e. before they became liable for income tax [32]. Some small social wage was therefore available during the period to 1938. But because a non-

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* Two dollars = one pound = 20 shillings = 240 pence; thus 1 shilling = 12 pence; 1/8d = 20 pence. The changeover to decimal currency took place on 10 July 1967.

arbitrary method to estimate its level is not available, and since its quantitative significance is minimal, the social wage before 1938 is disregarded.

Another problem is that calculating the social wage as being equivalent to the social security charge may underestimate the former. The SSF was supplemented by transfers from the Consolidated Fund every year up to and including 1958-59 [33]. The SSA was amended in 1958; all social security income tax was henceforth paid directly into the Consolidated Fund. Administration costs of SSA were appropriations from that fund [34]. From 1 April 1964, the SSF was absorbed into the Consolidated Revenue Account, in connection with a general rearrangement of Government accounts [35].

For the period to 1960, the social wage is probably slightly underestimated; for the period from 1964, it may well be overestimated. Some changes in the Government accounting system suggest that tax collected for social security purposes may have been used for ends other than providing welfare services to the working class. Funds from the original SSF could only be used for welfare projects. Once the Fund was incorporated, this structure no longer applied and

distinctly social security payments were no longer readily identifiable [36].

Far from being merely an "accounting concept", the social wage must be viewed as a real category of income. In 1936, workers agreed to the socialisation of part of their wages to form a fund to finance social welfare programmes. The need for such a fund was impressed on them during the epoch of sluggish capitalist development through the 1920's and 1930's. Before 1936, welfare provisions were concessions wrung from bosses through direct struggle. With the advent of the long boom and full employment, struggles over access to the SSF obscured the fact that it belongs to the class as a whole.

As the immediate need for protection waned, the rationale and many of the original aims of social welfare were perverted. At best, "welfare" amounted to a transfer of income from the less needy to the more needy. During the long boom, it reduced to a transfer from the better-paid to the worst-paid layers of the working class (the "low-paid" in modern parlance). Originally a fund for the collective consumption of the working class, the SSF became a gigantic moneybag plundered by sectional interests claiming to operate on

behalf of "the nation" [37].

The gradual degeneration of welfare provisions coincided with the bureaucratisation and degeneration of the Labour Party. Originally a political organ of trades unionists, socialist intellectuals and working people, the Labour Party more and more became a liberal bourgeois party oscillating between reformist and straightforwardly anti-worker positions [38]. Over time the SSF was depleted from within, to pay the salaries of a burgeoning stratum of welfare "experts", "supervising" and "planning" the distribution of whatever was left over to distribute [39].

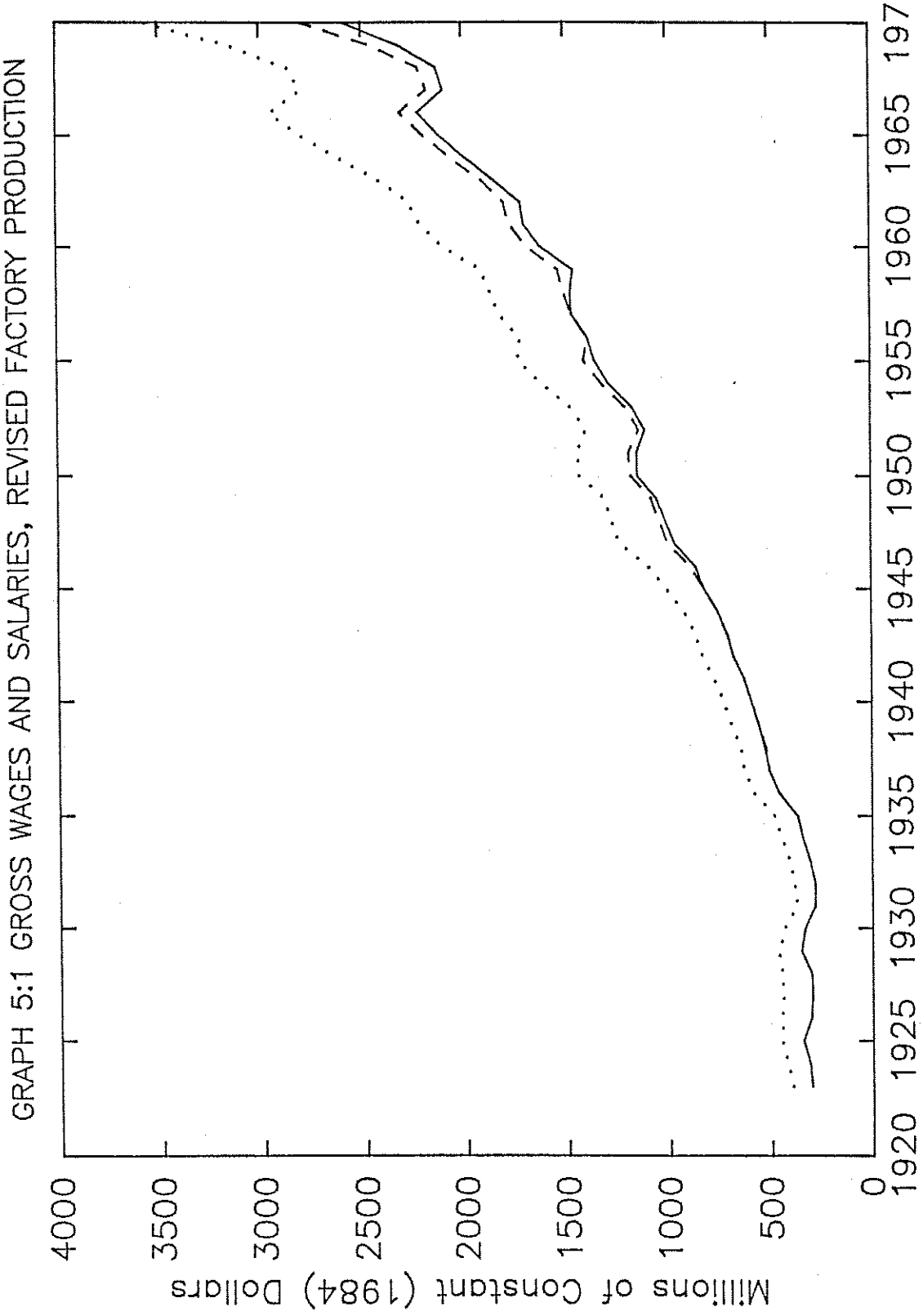
The ambiguities and mysteries surrounding the social wage stem from the fact that workers never controlled their own social security fund. This lack of control meant that the fund could be used simultaneously to expand the state bureaucracy and divide workers. The growing gap between net and gross wages created the impression of much greater inequality within the working class than actually existed.

For example, kindergarten teachers might compare their gross salary, say $20,000 with that of university professors earning say, $60,000 and consider them three

times better paid. But the maximum tax rate of kindergarten teachers was 33 cents in the dollar while professors paid 66 cents in the dollar on one-third of their income. Thus the differential between workers' wages was exaggerated by the notion of gross wages. Class cohesion which emerged in the inter-war period disappeared as workers on high gross wages came to believe that they were subsidising the incomes of the lower-paid strata.

The popular perception that income tax helped the poor and needy enabled the bourgeoisie to shift the burden of financing the state more and more onto the backs of the workers - not through taxation, but through depressing real wages. For as long as workers could be satisfied with imaginary wage increases, i.e. substantial gross wage increases, but little real (net) increases, industrial relations and the class struggle could be contained at no cost to the employers.

The logical result of workers' perceptions that they pay income tax is the belief that the state stands above classes. The perception that the state collects funds which can be competed for lends credence to notions of political and socio-economic pluralism. It appears that workers "have a stake" in the bosses'


GRAPH 5:1 GROSS WAGES AND SALARIES, REVISED FACTORY PRODUCTION
Millions of Constant (1984) Dollars
4000
3500
3000
2500
2000
1500
1000
500
0
1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970
YEAR Key: Total = dots, Prod. Wkrs = Dashes, Var. Capital = Line

do in the third. At some point, the effect of "planned" depreciation disappears as the plant ages and the average depreciation allowance comes closer to the real rate of depreciation. Thus although the data are less exact than desirable, the discrepancy between book value and market price will not be as large as might be thought at first sight.

An additional problem for marxists concerns the distinction between moral and physical depreciation [47]. The continuous drive for increased labour productivity leads to leaps in technological innovation, and sometimes relatively new machinery quite capable of normal functioning is replaced by more advanced equipment. It is quite impossible to determine the extent to which this happens in the data. It is likely that some of the stock of fixed capital reported has been made redundant in this way. In this case, the older the average age of fixed capital stock, the greater the likelihood that some stock is morally depreciated (obsolete).

Rented property

Not all fixed capital is owned by the same firms which utilise it. Because rentiers are not required to

complete factory production surveys, the problem arises of how to estimate the value of such property. Government statisticians impute a value on the basis of the rent paid for the use of plant, equipment, land and buildings. The imputed rental value of assets is obtained by treating rent payments as a fixed fraction of asset-value, say 6 or 10 percent. The total value of rental property is estimated by dividing rent paid by the percentage and multiplying the result by 100. This imputed value is then added to the manufacturers' estimates for their fixed assets to arrive at the total value of land, buildings, plant and machinery [48].

Circulating-constant capital outlays

The circulating component of constant capital includes raw materials and incidental costs (faux frais) which must be met to keep the production process going [49]. The raw materials outlay does not require re-aggregation, because official data report the outlay directly. To arrive at total Cc, incidental costs must also be included.

The first type of incidental costs are accounted for in factory production statistics under the heading "other productive expenses". But some items (e.g. rent

and interest payments) enter the factory production accounts under this heading as debits although they are credits from the standpoint of the process as a whole, i.e. are elements of surplus-value. To arrive at circulating-constant capital, "other productive expenses" must be broken down into its constituent parts. This task is by no means simple, as the aggregate includes depreciation of fixed capital, rent, interest on loans, insurance, repairs and maintenance by own staff, energy, and a residual category "other" which includes office furniture and equipment and general administration costs [50]. Not all of these elements are circulating capital outlays.

Energy costs and "other" can be treated straightforwardly as circulating capital. Fixed-asset depreciation plus repairs and maintenance performed by employees is roughly equal to the reconstitution of plant, machinery, land and buildings. Interest paid on borrowed capital is not circulating capital, because it is not constant capital, i.e. it is newly created value (surplus-value). It is a cost only from the standpoint of the manufacturer, i.e. surplus-value lost from the productive sector to the commercial and finance sectors. Since the average bourgeois statistician does not operate with a labour theory of

value, and assumes that value is created in exchange, the official classification of interest as a productive expense (an input) is to be expected.

But rent is an entirely different story. Here it seems as though the Government statistician colludes with the bosses to make profits appear as small a fraction of total income as possible. Rent enters first as an imputed value of fixed assets and a second time under the heading "other productive expenses". In the picture painted by official statistics, rent is thus counted as a cost twice over. From a marxist standpoint, rent equals profits accruing to rentiers, i.e. a fraction of surplus value.

The function of Cc is to enable the smooth continuous operation of the production process to enable the optimum creation of surplus-value. At the start of a production cycle, bosses must have a fund available to meet the relevant expenses. This fund is reproduced (reconstituted) at the end of the cycle. In this study, wage and salary payments to non-productive workers are treated as Cc because the function of non-productive workers is precisely to enable the maximal production of surplus-value [51].

CHAPTER FIVE

Many marxists (e.g. Steven and Bedggood) assume that non-productive workers are paid out of newly-created value [52]. This misconception has weighty implications not only for marxist economic analysis but also for any class or social analysis. If it is true that non-productive workers receive their incomes from the mass of newly-created surplus-value, it is impossible to sustain the claim that all workers constitute a single class. For, in this case, non-productive workers can only increase their incomes through an increase in the rate of exploitation of productive workers. If so, it is obvious that productive and non-productive workers have opposed and irreconcilable class interests.

The logical conclusion is that productive workers form one class and non-productive workers another; Lenin's definition of the working class as comprising all who derive income solely from wages and salaries has to be discarded. Although rarely recognised, this conclusion lies at the root of the Stalinist conception of the working class as the industrial proletariat. The disastrous conclusion that ought to be drawn is that the working class has no revolutionary potential, because the weight of productive workers in the economically active population has declined and

continues to decline. More honest writers do draw this conclusion and bid "farewell to the proletariat" [53].

More common however are attempts to fudge the issue in order to forestall the ultimate conclusion. Bedggood provides a good summation of Steven's endeavours in this area, which he (rightly) rejects:

> non-productive workers are placed in a contradictory class position because, on the one hand, they are opposed to the capitalist who exploits their labour in order to realise his profits while, on the other hand, they are opposed to any reduction to the rate of exploitation of productive workers. They must therefore constitute an intermediate or middle class between capitalists and the working class" [54].

Unfortunately Bedggood's alternative suffers from the same disease:

> while it is certainly true that non-productive workers may gain increases in wages as the result of increased exploitation of productive workers and may side with the capitalists in the struggle over the share of the value produced, it is by no means certain that they do... It is in the interests of the non-productive workers to raise the rate of exploitation just as it is in the interests of the productive working-class to increase their wages. But what is much more important is their common class interest to end the exploitation of their labour power by the capitalist class" (emphasis in the original) [55].

This "solution" is no solution at all; if non-productive workers live from surplus-value, how can they be exploited ? If they are not exploited, why do

have an interest in bringing exploitation to an end ?

To maintain both the integrity of the marxist conception of the working class and the revolutionary potential of this class, newly-created surplus-value must be distinguished from surplus-value as such. The fact that non-productive incomes derive from surplus-value does not mean that these workers have interests opposed to those of productive workers - all wage payments are made from surplus-value. Moreover, all outlays of capital (whether circulating or fixed, constant or variable) originate as surplus-value.

It is not to save marxist theory that the distinction between existing and newly-created surplus-value must be drawn. Rather it corresponds to the real historical order of things. At the beginning of the production cycle, the capitalist must have an investment fund - money - to buy commodities (fixed and circulating, constant and variable capital) to produce new commodities to sell for more money. Such is the ABC of marxism.

Non-productive workers do not wait until the new commodities are sold and the newly-created surplus-value is realised before they are paid. Their boss

already has the money before the cycle of production begins. If they pre-exist the creation of this value, non-productive workers' wages cannot be a cost on it. The economic connection between productive and non-productive labour is that productive workers reconstitute the fund of non-productive incomes just as they reproduce constant and variable capital as such. The fact that productive workers have to reproduce the value of machinery does not oppose them to technology; why then should it oppose them to non-productive workers ? Insofar as there exists real opposition concerning non-productive work, it is caused by the fact that the capitalist system prevents more of the total social labour from producing use-values. But both non-productive and productive workers would benefit from the expansion of use-values that would result from a break with the limitations imposed by capitalist resource allocation.

In terms of economic function and the historical sequence, there is absolutely no reason for believing that non-productive wages are paid out of current surplus-value. It follows that non-productive workers have no necessary interest in raising the rate of exploitation, and so on [56].

Hampton uses the sum of the cost of raw materials, other expenses of production (excluding interest and depreciation) plus depreciation as an indicator for constant capital. His argument is that depreciation "represents the fraction of fixed assets outlaid annually" [57]. Not many bosses would agree with Hampton that they only advance the equivalent of depreciation charges at the beginning of a production cycle. Hampton confuses the fixed capital consumed with fixed capital advanced. This confusion has dramatic quantitative consequences when it comes to calculating the organic composition and rate of profit (see below). Steven arrives at the same definition but in a roundabout way. He defines constant capital as output value less value added: "Since most of these expenditures were made on raw materials, fuels and depreciation, they give a reasonable approximation of constant capital" [58].

Surplus value

Surplus-value is newly-created value. It is determined by deducting the sum of preserved values from the value of output (S = total value of output - (rC + V + Cc)). Factory production data reports the value of production as the sum of selling-prices

received by factories. As noted, factory production data does not contain information about profit appropriated by intermediaries between production and final consumption. Consequently it systematically underestimates the level of surplus-value.

Because Hampton, Steven et al. define C and V differently, they arrive at quite different estimates for surplus-value from our own. Hampton defines surplus-value as Net Output less total gross wages and salaries. In our opinion, this approach must necessarily result in an underestimation of the absolute level and compress fluctuations in that level. Personal income tax, for example, is treated as variable capital rather than surplus-value; rental payments are not included as new value; and so on [59].

Steven calculates surplus-value by subtracting salaries and wages from Value Added, a procedure which, he says, "brings us closest to obtaining the Marxian surplus" [60]. But Value Added equals the value of the product less raw materials. Thus surplus-value estimated according to this procedure includes all incidental costs of production. For this reason, Hampton's precision - for all its limitations -is greatly superior to Steven's.

Using his public company accounts, McAra estimates surplus-value by subtracting the sum of raw materials and services and wages and salaries after income tax from total sales. He ends up with a result almost identical to Hampton's [61].

Stocks and flows

All elements required for a marxian analysis have been determined at this point. In the process of transforming official aggregates into marxian ones, some sub-aggregates which are treated as inputs in bourgeois economic theory have been reallocated as outputs and vice versa. But all the different flows have been accounted for. The integrity of all data has been preserved in the transformation. As demonstrated in detail in Volume 2, marxian social accounting principles can be at least as rigorous as their bourgeois counterparts. This point is an important one, because it shows that the category surplus-value is no more mysterious than Value Added, New Value Added or Net Output.

For a marxist analysis, the value-elements must be brought together in the key ratios: the organic

composition (C/V), the rate of surplus value (S/V) and the rate of profit (S/C+V). But before this can be achieved, it is necessary to make a further distinction between flows and stocks of capital.

Before either C/V or S/C+V can be calculated, annual capital flows must be converted into capital stocks. "Capital flow" refers to volume over an accounting period, in contrast to "capital stock", the sum tied up more or less permanently. Factory production data reports annual expenditures (i.e. flows) but firms need only sufficient capital to pay wages, buy raw materials etc., until incoming revenue covers these costs. Setting up in business requires an investment fund that covers the entire fixed capital outlay on the one hand, and on the other sufficient circulating-constant and variable capital to bridge the period between the beginning of production and the point at which sufficient exchange-value is being realised to allow these costs to be met from current income.

Changes in the time-span between investment and realisation change the capital stock required to stay in production. In turn, changes in capital stock levels have immediate effects on the rate of profit and the

organic composition. One of the counter-tendencies to the rising organic composition is a reduction in the turnover-time of constant capital [63]. Total constant capital can be reduced either by abbreviating the turnover-time of fixed capital or by abbreviating the time-span between the production of commodities and the realisation of their exchange-value.

Because the turnover-period for fixed capital generally exceeds one year, the fixed-capital flow can be treated as a stock. The methodology developed to estimate stock levels for circulating-constant and variable capital is detailed in Volume 2. Data on manufacturers' stocks are used as a basis for estimating circulating capital stocks on hand to meet raw materials and other non-wage costs of production. The stock to meet wage and salary payments is estimated as 7 weeks' wages.

Graph 5:2 shows the quantitative difference between the annual flow of circulating capital (dots) and circulating capital stock (line). Graph 5:3 does the same for variable capital. Neither Hampton, Steven nor Holland take any notice of the distinction between flows and stocks [64]. Because they define circulating and variable capital differently, the flows on our

graphs do not indicate their precisions. Nevertheless, the difference between flows and stocks shown does provide a rough indication of the degree to which they over-estimate C and V in calculating the organic composition and the rate of profit. It can be concluded that the methods employed by Steven and Hampton produce results which come nowhere near the marxian categories they purport to indicate.

McAra shows awareness of the distinction between stocks and flows:

> One important fact usually overlooked, is that normal business practice ordinarily requires "the payment for goods" on the 20th of each month following delivery. Averaged out this means the goods will be turned-over every five weeks -a cycle of 10 turn-overs per year... using the customary 10 turnover cycle, some startling revelations emerge:- 1. Instead of the Employer investing the Amount in Wages in the Annual Accounts, he actually invests only one-tenth of that sum each 5 Weeks. 2. Since the Employer gets the 5 Weeks' Wages back at the end of the period, it means he merely circulates the same sum each turnover period [65].

But while he recognizes the importance of the distinction between stocks and flows, he only applies it to the rate of exploitation: "<u>That means that the rate of exploitation of each worker</u> [at Ivor Watkins-Dow] <u>is not 129.5% but 1290.5%</u>... Every $100 invested in Wages Returns $1395 annually." Even more astoundingly, on his original estimate, 17.4 hours per

week were required to reproduce wage-costs. After the adjustment for stocks, this figure drops to 0.28 hours per week - that is to say, before taxation is taken into consideration [64]. Adjust for tax, and workers reproduce their wages in a negative number of hours each week [66].

McAra forgets that the rate of exploitation is the only ratio not affected by the distinction between stocks and flows because it is a ratio of necessary to surplus labour in a given time-period. McAra's rate of exploitation is a ratio of five weeks necessary labour to surplus value produced over 50 weeks. Whether or not these estimates do in fact "prove the complete correctness of Marx's analysis" can be left to the reader to decide.

Antinomies of an unrigorous marxism

McAra makes serious mistakes; but then again he was never a trained scholar in the first place. His definitions actually come closer in form and content to Marx's categories than do those propounded by self-proclaimed marxist academics in New Zealand.

Hampton completely ignores the difference between

flows and stocks in his time-series for the organic composition, rate of surplus-value and rate of profit. In his results, none of the laws of capitalist development can be confirmed - which, he says, "suggests that the nature of New Zealand capital does differ to that found in the main advanced countries, where the basic Marxian predictions appear to hold (Mandel, 1975)" [65]. The "complete incorrectness" of Marx's analysis would seem to be incontestable, at least as applied to New Zealand conditions.

To make matters worse, none of the series register significant changes between the peak of the long boom and the trough of the 1930's depression either. Faced with the fact that the evidence did not fit with his rendition of Marx's theory, Hampton has three options: either to abandon the theory, to re-examine his rendition, or to explain the anomaly in terms of counter-tendencies to the basic laws, using value-elements to demonstrate the existence of the counter-tendencies. However, unlike any conscientious scientist - who would recognise the imperative of choosing one of these options -Hampton opts instead for eclectic mish-mash.

As a possible explanation for New Zealand's

exceptionalism, he postulates its role in the "world division of labour" - "the production of cheap agricultural products for core countries ... and the consumption of consumer goods manufactured in the core" [66]. But just how this addresses the problem is not made clear at all. By way of an additional hypothesis, he suggests that New Zealand industry has been protected against competition by controls on imported goods and foreign investment. "A consequent lack of competition means a lack of incentive to cheapen prices and raise profits by the use of more productive machinery" [67].

If Hampton is correct, and New Zealand lacked competition, it was simply not a capitalist society - in which case one would not expect Marx's laws of motion to operate in it. But could competition be stifled simply by putting in place import controls and tariffs ? Absolute state control of foreign trade lasted only for around ten years (including the war years); since then tariffs were the principal buffer for domestic industry.

Let us assume, for argument's sake, that insufficient competition in New Zealand prevented rising labour productivity. This would mean that while

in the competitive world economy labour productivity rose, it remained static in New Zealand. But growing disparity between the two levels of labour productivity would continually undermine the ability of tariffs to shield New Zealand industry; the expansion of New Zealand's backward industry would have necessitated the raising of tariff barriers to offset the growing disparity. In fact, the buffer was progressively lowered and removed as industry expanded.

As noted, Steven attempts to classify gainfully employed New Zealanders using ostensibly marxist criteria. One of his primary concerns is with identifying class-fractions. He considers it necessary in this context to introduce the concept of unequal exchange: "we should not assume an equal rate of exploitation in all factories". The analysis purports to show that the "smallest factories hardly generate enough profit to place their bourgeois members in the upper income groups", because surplus-value is surrendered to monopoly capitalists [68]. Steven classifies factories according to value of output and, after a series of computations, arrives at the conclusion that workers in small factories (where the organic composition is low) end up working more for the benefit of monopoly capital than their own bosses: "The

1,117 smallest firms with only just over three operatives surrender no less than three times the amount of surplus they actually receive" [69].

The problem here is that Steven ignores the distinction between stocks and flows of capital. He calculates the organic composition as the ratio of annual depreciation plus annual raw materials costs to annual wages and salaries. Even if it is granted that his C and V flow-values are adequate (which they are not), his analysis presupposes the absence of variation in turnover-time between industrial sectors or firms. This assumption is highly unrealistic because, as everyone knows, production-times differ for different commodities.

The consequences of ignoring turnover-time can be demonstrated with a simple numerical example. Assume two firms A and B with identical annual outlays, say 200 C and 100 V, and a rate of exploitation of 2S/1V. Assume A's capital turns over 10 times per year, and B's only twice. The rate of profit will be 200/(300/10) or nearly 7% for A and 200/(300/2) or about 1.3% for B. If small firms turn over their capital more quickly than big firms, which is generally the case, this fact alone can push up their profit rate to the point where

the monopolies "surrender" part of their surplus to the petty-bourgeoisie. The assumption of equal turnover-times for all firms is at best a working hypothesis. But when Steven invokes it, it is the wrong working hypothesis - it runs counter to his own insistence on the importance of unequal exchange.

In part, the poor reputation of marxism in New Zealand can be attributed to anti-marxist bias pure and simple. Insofar as vulgar prejudice is involved, little can be done to relieve it. But in view of the above, the poor reputation is at least in part deserved. The triumphant proclamation of the epistemological superiority of marxism as a holistic Science, which could explain absolutely everything, was not followed by much research. Yet where the practitioners did withdraw from the rostrum to perform their Science, they used eclectic ad hoc stratagems whenever the all-encompassing formulas did not immediately "fit the facts". After all was said and done, the old bourgeois theorists (Condliffe, Sutch et al.) were pressed into service when the grandiose predictions did not come to pass.

CHAPTER SIX

AN ACID TEST FOR MARXIST THEORY

In the introduction to this study, the question was posed: can the survival of capitalism and its new "lease of life" after World War II be explained in a strictly orthodox marxist way ?

Having outlined the marxian conception of capitalist development and the methods used to re-aggregate official data to approximate marxian categories, we are in a position to answer this question. As indicated in previous chapters, factory production data do not permit all of the theses of Marx's Capital to be put to the test. Nevertheless, such data do enable a test of the most important elements of the marxian theory of capitalist development, including key laws of motion (the tendency for the organic composition of capital to rise and the rate of profit to fall, the concentration of capital in ever greater units, and ineluctable class struggle). It is also possible to test some major tendencies which, according to Marx, result from the operation of the

basic laws: increasing proletarianisation of the economically active population; impoverishment of the working class relative to the employers; reduced wage differentials between workers by sex and occupational function, etc. [1].

Measuring "economic performance"

Unlike bourgeois economists, marxists cannot gauge economic development simply by the "output" of factor-incomes. The marxist approach is to assess economic progress in terms of the capacity to utilise all available resources. The difference between the two approaches is that the former does not take into account the size of the economic engine and its technical capacity to satisfy human needs. The consequences of the oversight can be made clear with an analogy. A Skoda car running at optimum revs produces more horsepower than an idling Porsche. If output is the sole measure of the performance of the two engines, the Skoda must be judged the most powerful of the two cars. The absurdity of rating the two cars in this way is obvious - if not to economists, then at least to Porsche owners, who prefer their vehicle to the ten or so Skodas they could buy with the same money.

CHAPTER SIX

The conventional approach of economists is to rate the performance of the 'economic engine' by its actual output, irrespective of the size of the motor, the gear the economic engine happens to be in, or the speed at which it is running. To ignore the potential capacity of the economy to satisfy human needs is, however, to ignore precisely the social-structural conditions which determine the throttle settings, the gear ratios, and the operation of the brake pedal.

Capitalist decline cannot be equated straightforwardly with absolute declines in levels of economic activity [2]. Economies also decline whenever the gap between actual and potential utilisation of resources grows. Those economists who decry the revolutionary marxist thesis that since 1914 the capitalist mode of production has been in decline, and point to the long boom as its refutation, fail to appreciate that the marxist concept of economic progress is much more sophisticated than the conventional concept [3]. Yet if one tried to sell these economists a Skoda for the same price as a Porsche, with the recommendation that, revved hard enough, Skodas perform as well as Porsches in city traffic, they would instantly reject the proposition -

knowing full well that potential performance is at least as important as actual output.

In this light, it is necessary to go beyond simple output standards to fix the real curve of economic development. A better indicator of the curve of capitalist development is the rate of capital accumulation in the productive sector. Marx distinguishes between simple reproduction (maintaining the given level of economic activity) and expanded reproduction (economic growth) [3]. Simple reproduction occurs when all and only the C and V components of the exchange-value of total output is re-invested in the next production cycle. Expanded reproduction occurs when a fraction of total surplus-value realised is invested in addition to C and V. In other words, the precondition for economic growth is that a fraction of surplus labour is converted to investment, i.e. accumulated as capital [4].

The rate of accumulation depends in part on the rate of surplus-value and rate of profit. It also depends on market conditions (aggregate demand, sectoral demand, income distributions etc.). The maximum potential for growth is given by the total surplus of society, i.e. the difference between the

total product and necessary product. This maximum is never attained in capitalist society, nor indeed in any class society. A comparison of the mass of surplus and accumulated investment can establish the degree of social parasitism in the system [5].

There are invariably "leaks" to non-productive expenditures (luxury consumption, "marketing" costs, speculation, etc.). An inherent feature of all class societies is that a class of non-producers must use part of the surplus product to employ workers to extract the surplus in the first place (standing army; tax collectors; policemen; bureaucrats of various kinds) and still more to justify the exploitation (priests, teachers, witchdoctors, philosophers, soothsayers, social "scientists", lawyers, etc.). From a marxist point of view, the more the ruling class has to rely on such functionaries, the more decadent the social order [6].

In capitalist societies, the limit for economic expansion is set by (a) the total mass of surplus-value realised in the previous production cycle and (b) all capital currently employed in non-productive activity. The real rate of accumulation (always less than the maximum) reflects the global assessment of investors

about the prevailing economic climate. The rate of accumulation provides precisely the single measure which brings together the supply-side and demand-side determinations of the growth process. The rate of accumulation depends on the going rate of surplus-value and profit, and thereby on the realisation of surplus-value and profit in markets.

The environment ("climate") of investment activity is, to be sure, also shaped by a variety of socio-political factors, but these must be set aside at the beginning of the analysis. They can be assimilated into the picture only after the analysis of the general conditions for economic growth has been completed. On the one hand, socio-political factors are in good part the result of the economic processes. On the other hand, these factors can only be introduced in a non-arbitrary way if the general patterns have been identified. According to the materialist conception of history, it is only in the light of the general trend of economic development that social and political conditions can be assigned the importance that is due to them.

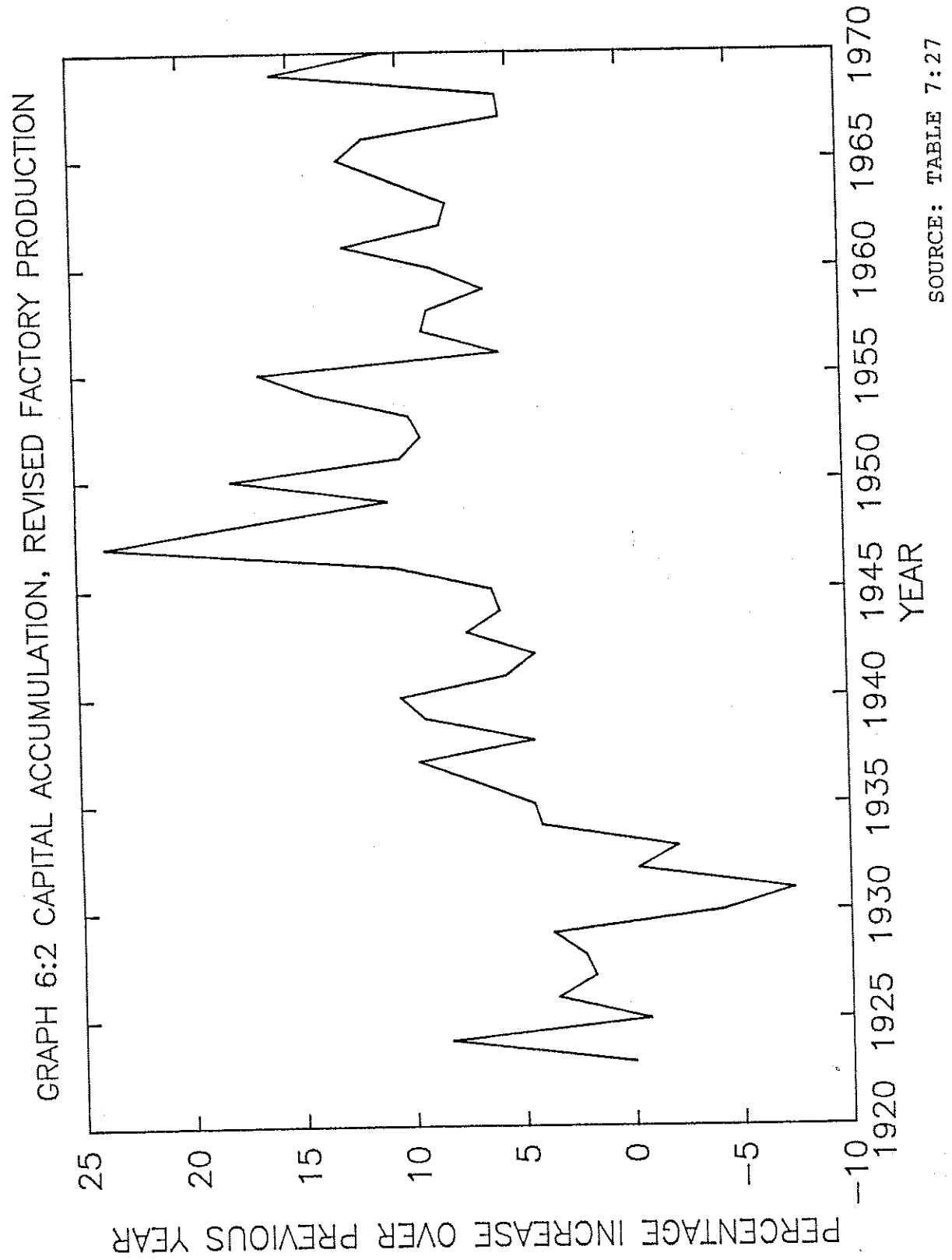
CHAPTER SIX

The accumulation of capital in revised factory production

Graph 6:1 reports the accumulation of the stock of capital advanced (C + V) for revised factory production, in constant 1984 dollars. Using the same methods applied in chapter one for national income aggregates, a comparison is made between the actual curve (line) and a constant growth curve (dots). Again, the unevenness of capitalist development is indicated by the divergence of the two curves. Disregarding short-term fluctuations, two distinct epochs can be identified.

The first (A) runs for 24 years from 1923 to 1947, during which the total capital stock roughly doubled. During the second period (B), the 24 years from 1947 to 1970, the capital stock more than trebled. As in the national income data, development during A is sluggish relative to that in period B. The breaking-point between the two epochs is 1947 for both national income and capital accumulation series.

Graph 6:2 plots the rate of accumulation of capital stock year by year. This rate is determined by calculating the mass of newly accumulated capital each



SOURCE: TABLE 7:27

year (subtracting from each year the total for the previous year) and expressing the result in relative terms, i.e. as a percentage of the total for the previous year. As in the national income data analysed in chapter one, clear short-run cycles emerge in the series: 192?-25; 1925-27; 1927-31; 1931-33; 1933-37; 1937-42; 1942-44; 1947-50; 1950-55; 1955-57; 1957-61; 1961-64; 1964-68; 1968-7?. From 1947, the range of oscillation in the cycles is more marked and the average duration of each complete cycle is slightly longer.

Graph 6:2 reinforces the periodisation suggested in 6:1. During the 24 years to 1947, newly accumulated capital exceeded 10% of the existing capital stock only twice, in 1940 and 1946. During the 24 years from 1947, it exceeded this level eleven times (1947, 1950, 1951, 1954, 1955, 1961, 1964, 1965, 1966, 1969, 1970). In the two years 1946 and 1947 combined, the increase is some 34.2%, no less than 23.7% of which is accounted for by 1947. Contracted reproduction, i.e. negative growth, occurred in 1925 (-0.7%), 1930 (-4.2%), 1931 (-7.4%), 1932 (-0.3%) and 1933 (-2.2%).

In fixing the curve of capital accumulation, a technical-visual problem is created by the magnitude of

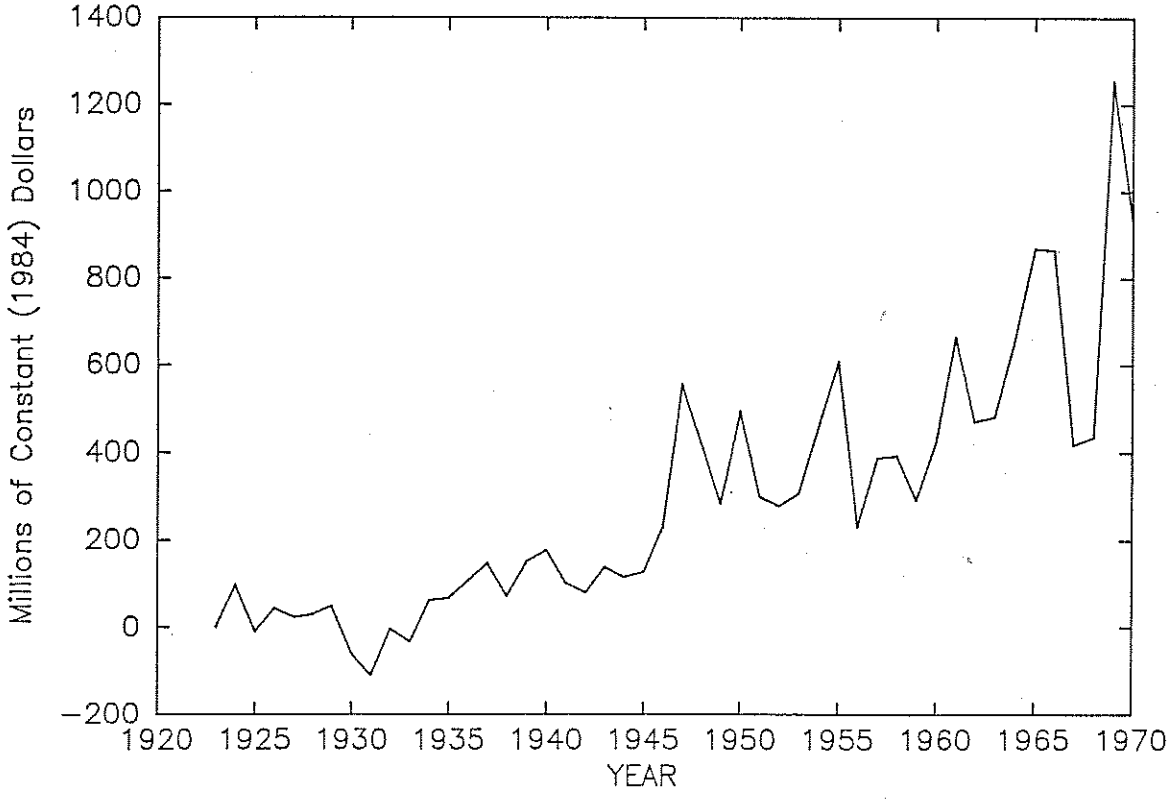
the increase in the absolute mass of capital stock between 1923 and 1970. In graphing the curve, the relatively high values at the end of the series compress the absolute fluctuations at the beginning of the series. The convention economists adopt to reduce this visual distortion is to index the values. Graph 6:3 reports an index (1923 = 100) for capital accumulation. The values are obtained by dividing all entries by that number (X) which, when divided by the 1923 figure (Q), gives 100 (X = Q/100). The rate of growth is indicated by the acuteness of the angle between the base-line and the trend line.

The index more clearly displays the two epochs. During period A, the index rises from 100 to almost exactly 200 (i.e. doubles); during period B, it rises from 200 to a little over 800 (i.e. quadruples). During the nine years from 1959 to 1967, the index rises from 400 to 700. In other words, during these nine years there was almost as much development as there had been during the 24 years in period A. These are precisely the years during which - according to Rosenberg - the New Zealand state achieved the "miracle" of balancing the magic square [7].

Graph 6:4 reports the mass of new capital

accumulated year by year, again in constant 1984 dollars. As would be expected, the oscillation increases as the capital base expands. Six distinct sub-periods of slower development are visible: 1929-34, 1940-46, 1950-53, 1955-60, 1961-63, and 1966-68. Expanded reproduction occurs wherever the line stays above the zero-level. Revised factory production suffered contracted reproduction in 1925, and during the slump of the early 1930's (the 1929 level of capital stock in the sector was not reached again until 1936).

GRAPH 6:4 NEWLY ACCUMULATED CAPITAL, REVISED FACTORY PRODUCTION



CHAPTER SIX

In chapter three, it was shown that, in New Zealand at least, it is not possible to predict the level of economic activity on the basis of knowledge of the level of state intervention. The sub-periods of slow development in Graph 6:4 correspond to well-documented interruptions in New Zealand's economic development: the slump, the war-years, the Korean War boom, the re-introduction of import licensing and the black budget during the term of the second Labour Government, the brief recession in the early 1960's, and the sharp downturn in 1967. Our hypothesis is that it is possible to predict changes in the level of state interventionism from trends in capital accumulation data.

Graph 6:5 shows the cumulated growth of capital stock (as in Graph 1:4, the annual growth rate in percentage terms is added on year by year). This method of displaying the data is superior to the index method, in that (a) the shape of the curve does not depend on the selection of a base year, and (b) fluctuations in the data are preserved both relatively and absolutely. An additional advantage is that this display can be compared directly with national income and revised factory production output data graphed in the same way (see chapters one and three, especially

Graphs 1:4, 3:8 and 3:9).

Comparing 6:5 with cumulated net output (Graph 3:8), capital accumulation rises more sharply (from 0 to just under 350%) than net output (from 0 to just under 250). Whereas net output grows most significantly from the period 1932 to 1947, at which point it slows down, the trend of capital accumulation evolves in the opposite direction. Nevertheless all the fluctuations appear in both graphs. It can be concluded that no mechanical relationship exists between the size of the investment fund and the mass of incomes arising in production.

Graph 6:6 reports the capital accumulated each year as a percentage of the previous year's surplus-value realised by firms in revised factory production. Again there is plainly no mechanical connection between the mass of profits returning to firms and the re-investment policies of those firms. Graph 6:6, which reports capital stock values, offers a much more adequate demonstration of this fact than did Graph 3:22, which reports new investment as a fraction of total annual expenditure.

During period A, i.e. up to 1947, the surplus-

value converted to capital exceeded 50% of total surplus-labour only four times: 54.2% in 1924, 55.1% in 1937, 52.7% in 1939 and 54.2% in 1940. In period B, newly accumulated surplus exceeds 50% of total surplus realised by firms ten times: 107.8% in 1947, 93.2% in 1950, 61% in 1954, 84.4% in 1955, 50.6% in 1957, 51.5% in 1958, 58% in 1961, 50.5% in 1965, 51.5% in 1966, and 66.3% in 1969. This contrasts with 1925, 1931, 1932, 1933 and 1934, when contracted reproduction amounted to respectively -7.3%, -36.2%, -87.3%, -3.3%, and -16.8% of the previous year's surplus.

From the preceding graphs it can be concluded that, contrary to the supply-siders' thesis, the volume of investment is not simply a function of the mass of surplus realised by investors. But contrary to the contentions of demand-siders, there is no evidence either to suggest that state intervention actually 'overrules' economic disequilibria, such that fluctuations in the rate of (new) investment are ironed out by state economic management.

Problems for the explanation of short-run cycles.

A purely logical problem for all conventional bourgeois economists arises out of their attempts to

explain variations in economic growth rates by means of a single variable held to be "fundamental". If a single variable determines economic progress, a secular trend in economic development should emerge whenever that variable exerts influence. In other words, regardless of whether e.g. state intervention is viewed as the crucial inhibitor or as the sponsor of economic growth, whenever state intervention occurs, fluctuations (i.e. cycles) should disappear from the series. In the face of fluctuations, mono-causal analyses logically can appeal only to varying intensities of influence exerted by the independent variable posited: all fluctuations must be attributed to variations in the causal efficacy of this variable.

Because they expect cyclical growth patterns, marxists do not confront this problem. Basically trade cycles are explained in terms of the laws of motion and the interaction between the various Departments - principally the capital-goods sector (Department I) and the consumer-goods sector (Department II) defined in chapter four. To determine this interaction, it is necessary to trace the development of the two Departments separately.

This project is ruled out of our study (a) by the

scope of factory production data, and (b) by the uneven nature of capitalist development in New Zealand. The output of New Zealand factories consists overwhelmingly of consumer goods. The uneven development of factory production in New Zealand can be illustrated with a few simple figures.

In 1923, 21.5% (1,038) of all establishments covered by the factory production survey were directly involved in the production of foodstuffs. By 1970, this figure had fallen to 6.4% (674). In 1923, 0.09% (39) of establishments produced machinery, tools and equipment. By 1970, the production of machinery (except electrical machinery) accounted for 18.4% (1951) of establishments. 30 out of the total of 39 establishments in 1923 produced agricultural and farm machinery. In 1970, the number of such establishments had risen to 171. Over the same period, the number of factories producing (in New Zealand, more often assembling) or repairing transport equipment expanded from 916 (21.1% of establishments) to 3,720 (35.1%).

These figures exaggerate the importance of machine production in the New Zealand economy. On the one hand, many factories described as manufacturers of machinery produce durable consumer-goods (cars, lawnmowers,

refrigerators, washing machines etc.). On the other hand, the number of establishments does not indicate the real weight of this type of activity. A better picture of the relative weighting of different sectors can be gained from factory output data. In Table 6:1, the total value of production of all establishments which could conceivably be classified as Department I has been aggregated for the period 1951-1970 and compared with the product value of all establishments combined.

TABLE 6:1 WEIGHTING OF CAPITAL GOODS SECTOR
TOTAL VALUE OF PRODUCTION

	--THOUSANDS CONSTANT $--- DEPARTMENT ONE	N.Z. FACTORY PRODUCTION	DEPARTMENT ONE AS % FACTORY PRDN.
1951	81,179	8,603,713	0.94
1952	73,815	8,622,884	0.86
1953	74,812	8,787,482	0.85
1954	91,715	9,347,498	0.98
1955	89,748	9,717,622	0.92
1956	87,619	9,650,558	0.91
1957	88,561	10,112,486	0.88
1958	87,149	9,907,908	0.88
1959	92,122	10,210,132	0.90
1960	120,075	10,877,736	1.10
1961	127,036	11,364,908	1.12
1962	120,763	11,543,826	1.05
1963	171,427	12,963,514	1.32
1964	213,125	14,177,710	1.50
1965	238,153	14,925,094	1.60
1966	251,192	15,212,918	1.65
1967	246,865	14,672,064	1.68
1968	189,346	15,465,822	1.22
1969	204,319	16,598,714	1.23
1970	256,485	17,829,884	1.44

The Table shows that even on a very broad definition of capital goods, the value of the product

of Department I never reached so much as 2% of the combined value of production of Departments I and II. Even here, the relative weighting of Department I might be exaggerated, if the value of raw materials in the product of this sector is on average higher than that for Department II. Table 6:2 compares the product value of Department I with depreciation in revised factory production and new investment in plant and machinery in factory production, to further illustrate the imbalance of the two Departments. Again, it should be borne in mind that a considerable proportion of Department I goods are durable consumer-goods or farm implements, so that Table 6:2 exaggerates the equality between the two departments.

TABLE 6:2 CAPITAL GOODS SECTOR

	VALUE PROD DEPARTMENT ONE	DEPREC'N	INCREASE IN PLANT & MACH.	DEPT. ONE % DEPREC'N + NEW PLANT & MACH.
1951	81,179	127,742	-34,556	87.1
1952	73,815	130,796	-18,116	65.5
1953	74,812	142,486	125,336	27.9
1954	91,715	167,125	119,157	32.0
1955	89,748	209,146	237,807	20.1
1956	87,619	211,386	-256	41.5
1957	88,561	233,223	-17,603	41.1
1958	87,149	220,751	48,603	32.4
1959	92,122	212,182	55,177	34.5
1960	120,075	224,558	126,748	34.2
1961	127,036	247,153	136,463	33.1
1962	120,763	283,488	2,340,378	4.6
1963	171,427	304,272	22,375	52.5
1964	213,125	335,124	212,804	38.9
1965	238,153	382,776	167,527	43.3
1966	251,192	407,256	142,032	45.7
1967	246,865	394,031	-27,524	67.4
1968	189,346	392,607	-177,836	88.2
1969	204,319	419,017	306,286	28.2
1970	256,485	438,664	88,869	48.6

CHAPTER SIX

One part of the output of New Zealand's factories is consumed by persons economically active in them; another is exchanged with the farm sector against raw materials. Finally, foreign exchange generated by the farm sector is used as a means to obtain capital goods. Most of the distinctive character of the New Zealand economy stems from the extremely uneven development of different sectors.

On the one hand, factory output consists in large part of processed foodstuffs. These are surplus to domestic demand and sold on foreign markets. On the other hand, most plant and machinery is imported. But in the international economy, the cycles of agricultural and industrial production have been desynchronised for several decades. The main reason is that world market prices for agricultural goods are determined not by average production costs, as is the case with industrial goods, but by "marginal" ones: the product of the least fertile lands (or the least profitable agricultural investments) whose product finds buyers sets the minimum international price level [8].

Fluctuations in foreign trade consequently tend to have both a wider range and more severe repercussions

in the New Zealand economy than they do in comparable, but more evenly developed, capitalist economies. At times, New Zealand agrarian surplus is sold for high prices when prices for industrial and capital goods on the world market are low. At other times, world market prices for agricultural produce are low when prices for capital goods are high. Between these extreme cases, a range of intermediate cases are possible. An exceedingly complex matrix of determinations therefore exists.

A further complication resides in the fact that much of New Zealand's exports lie on the border between agricultural and industrial raw materials. Lactic acid, casein and other milk fats, tallow etc. can be consumed directly as foodstuffs, used as raw materials for the production of food stuffs, or used as raw materials in industrial production. Whether or not e.g. mutton is rendered down to tallow depends on the demand for this type of protein, on the price structure of tallow relative to meat, as well as on the demand and absolute price level for tallow. High prices for foodstuffs proper may coincide with low prices for semi-industrial goods (i.e. goods intermediate between agricultural and industrial).

Many permutations are possible. Any trade-cycle theory stipulating only one independent variable mechanically related to all other variables cannot explain the observable fluctuations. This applies equally to bourgeois economists and to the cruder neo-marxist models (the "three worlds" of Willmott, the "core and periphery" of Armstrong, Clements's "development of underdevelopment") [9].

The Stalinist parties (CPNZ, SUP, WCL) attempt to reduce all New Zealand's problems to "state monopoly capitalism" and the notion that monopoly capital, unlike freely competitive capital, seeks surplus-profits. By reducing New Zealand's dependence to the political weight of foreign "transnational" corporations, they overlook the subtle and complex interactions (in terms of use-value and exchange-value) between New Zealand and the rest of the world [10] . A sophisticated theory of imperialism is required, which can allow for some independent internal determination of New Zealand's economic development [11]. The curve of capitalist development in New Zealand is neither simply a product of world market conditions nor exclusively the result of interplay between internal forces (operating independently from the pattern of world trade).

CHAPTER SIX

The problem of pin-pointing the articulation of the New Zealand economy with the world economy raises many interesting and important issues, none of which has - in our opinion - been adequately dealt with in the existing literature on the subject [12]. Factory production data cannot however be used as a basis for addressing them. Our work assumes that economic development in New Zealand is at least relatively autonomous. This approach, moving from the analysis of a part (revised factory production) to the whole (national economy), may exaggerate the independence of New Zealand's economy. If however international linkages are as vital as many authors claim, this fact will become apparent in our analysis. For in that case it will be impossible to account for the curve of capitalist development even mainly by reference to the operation of capitalist laws of motion within revised factory production (our analysis should then nevertheless enable a precise specification of the limits within which independent development takes place, i.e. to discover just what 'relative autonomy' might mean).

CHAPTER SIX

The organic composition of capital in revised factory production

From the standpoint of marxist theory, the most important determinant of the rate of accumulation in the long run is the quantitative relation between types of capital accumulated. Accumulated capital comprises both constant and variable components. The theory leads one to expect that, in the long run, competition between capitalists will force them to accumulate more constant capital than variable capital. As a result, the organic composition of capital (ratio of C to V) rises, which -other things being equal - depresses the rate of profit. In turn, the falling rate of profit acts as a barrier to the accumulation of capital.

Given the occurrence of the long boom, either the organic composition rose or it did not. If it did rise then, for a whole period, the rate of exploitation must have been increased, sufficiently to offset the fall in the rate of profit induced by the rising organic composition. If however the rate of exploitation continually rose then, in the last instance, the long boom must be explained in terms of disappearance of the class struggle. There are of course a number of counter-tendencies to the basic laws, but none of these

on their own can explain the duration of the long boom.

Graph 6:7 reports the evolution of the organic composition (C/V) for revised factory production. The first trend to be noted is the rise in the organic composition of capital up to and including the great slump of the 1930s. Between 1923 and 1932, the organic composition rose from 18.97C : 1V to 25.1C : 1V. From 1932, the organic composition fell steadily to 1945, whence it began to rise again. In 1945, the ratio was 12.45C : 1V, the lowest point in the series. It grows unevenly from 1945 to 1962, from which time it levels out to about 18C : 1V for the remaining years.

The rise in the late 1920's to 1932 is undoubtedly attributable more to the laying off of workers in an overproduction crisis than to increases in outlays on plant and machinery. The overall effect is that firms went out of business less quickly than workers were laid off (or had their wages or working hours reduced. Much of the fall in the organic composition from 1932 to 1945 simply represents the re-employment of these workers.

The organic composition typical for 'normally functioning capitalism' prior to World War II is

unknown. But as discussed in chapter one, the inter-war depression begins prior to 1923. It is consequently difficult to gauge the true significance of the fall in the organic composition up to 1945. The difficulty is compounded by World War II: it interrupted the supply of machinery and raw materials, and in many cases low-waged female workers replaced male operatives in factories for the duration of the war. Whether the overall historical trend since the 19th century has been one of a rise in the organic composition cannot be assessed on the basis of our series.

Whatever the case, the end of the long depression corresponds to a declining organic composition. The long boom (1947-1973) itself appears more difficult to explain. The organic composition rose, albeit unevenly, but so did the rate of capital accumulation. This counter-intuitive correspondence would suggest that the rate of exploitation rose during the period of the long boom. The alternative explanation is that bosses continued to accumulate their capital regardless of a fall in the rate of profit - which is improbable.

As constant capital includes both circulating ("Cc") and fixed ("Cf") components, the fall in the

organic composition during the 1930's and 1940's is explicable in terms of one of four permutations:

(1) a fall in the mass of Cc relative to V;
(2) a fall in the mass of Cf relative to V;
(3) a fall in the mass of both Cc and Cf relative to V;
(4) a rise in Cc or Cf was more than offset by the fall of Cf or Cc respectively.

Conversely, the rise in the organic composition during the first part of the long boom is explicable in terms of:

(1) a rise in the mass of Cc relative to V;
(2) a rise in the mass of Cf relative to V;
(3) a rise in the mass of both Cc and Cf relative to V;
(4) a fall in Cc or Cf was more than offset by the rise of Cf or Cc respectively.

Which permutations do in fact apply obviously cannot be determined from information in Graph 6:7. The question must be held over until a later stage in the analysis.

CHAPTER SIX

The rate of profit in revised factory production

Marxist economic theory leads one to expect that the rate of profit falls in the long term as the organic composition rises. As shown in Graph 6:7, however, the organic composition on the whole rose from 1923 to 1932, fell from 1932 to 1945, and rose again from 1945 to the mid-1960's. Other things being equal, therefore, the rate of profit could be expected to fall to 1932, rise until about 1945, and fall again from that time.

Graph 6:8 shows the evolution of the rate of profit. Generally speaking, these expectations are confirmed. Disregarding short-term fluctuations, the rate of profit fell from 14.94% in 1923 to 9.28% in 1932. It reached a high point in 1943 (21.21%). Again ignoring short-term fluctuations for the moment, the overall tendency is a decline in the profit rate to around the end of the 1950's, from which time it rose to the mid-1960's, declining once more thereafter.

Comparing 6:7 with 6:8, the apparently anomalous periods (in which both C/V and S/C+V both rise or fall at the same time) are 1938-1945 (during which both fall), 1950-1953 (both rise), 1958-1965 (both rise).

Two variables have to be considered here, namely the rates of exploitation and price inflation. To understand how the rate of profit affects the economic growth rate, it is obviously necessary to consider the effects of price inflation. Contrary to Graphs 6:1 to 6:6, Graph 6:8 is not based on inflation-adjusted values. If, at the end of the year, manufacturers had to pay more for V and Cc commodities (because of price inflation), it is unlikely they would have accepted the figure shown in Graph 6:8 as the real average rate of return. For them, the real rate would have been the figure shown less the rate of inflation for C + V commodities. No attempt is made here to compensate for inflation, because it leads to other problems (see Volume 2, pp. 410-12).

There is no law or set of laws in Marx's theory which stipulates a continuous secular decline in the rate of profit. If such a secular decline really did occur, the occurrence of the long boom would contradict Marx's theory of capitalist economic growth. Short-term fluctuations in this rate are to be expected. To verify the existence of a tendency for the rate of profit to fall as a long-run or historic trend, it is necessary to compare like epochs (periods of similar economic character), i.e. long waves of either

accelerated or decelerated capital accumulation.

Unfortunately factory production series do not extend far enough in time to encompass comparable epochs. It is therefore not possible to assess the overall historical trend. All that can be concluded from our data is that the rate of profit is highest where the organic composition is lowest. From 1942 to 1949, when the organic composition was at its lowest, the inflation-adjusted rate of profit exceeded 18% each year; this level was achieved again only twice, in 1963 and 1965. By 1970, it had fallen to 13.5% (note: the values shown in Graph 6:8 are not adjusted for inflation; for the adjusted figures, see Volume 2, p. 417).

What must now be established is the extent to which increases in the organic composition during periods in which the profit rate also increased were offset by rises in the rate of surplus-value.

The observed rate of surplus-value in revised factory production

The rate of surplus-value (exploitation) is the ratio of newly-created value to the value-cost involved

in reproducing the labour power of productive workers. The rate of exploitation is formed by the reproduction-costs of the capacity to work and the extent to which productive workers can be "persuaded" to perform what is from their own standpoint unnecessary (surplus) labour. In the last instance, these variables are determined respectively by the level of labour productivity in the consumer-goods sector and by the level of unemployment. A rising rate of exploitation can counteract falling profitability resulting from a rising organic composition.

As noted, the organic composition rose from 1923-1932, fell to 1945, rose unevenly from 1945 to 1962, from which time it leveled out. During the long boom, the organic composition and the rate of accumulation rose together. This would suggest that either profitability was maintained through increased rates of exploitation or that accumulation was maintained despite falling profit-rates. Graph 6:8 suggests the answer lies somewhere in between these two options. Disregarding short-term fluctuations, profitability declined from 1923 to 1932, rose from 1932 to 1943, declined to about the end of the 1950's, rose again to the mid-1960's, and declined thereafter.

C/V and S/C+V both rise during 1950-1953 and 1958-1965. But as can be seen in Graph 6:9, the rate of exploitation likewise rises in 1950 and 1958. This fact explains why the profit rate was not depressed by the rising organic composition. It can be concluded that, at this level of analysis, the variables interrelate just as Marx thought they would. But the precise mechanisms which produce this remarkable 'fit' still remain to be explained. We need to know, for example, what factors led to the deep fall in the organic composition in the late 1930's and early 1940's, and what factors enabled the rate of surplus-value to be raised in the 1950's. In a long period of economic expansion, one would after all expect the labour supply to be exhausted, and that the relationship of forces would favour workers, i.e. that the rate of exploitation would fall.

Yet, as can be seen in Graph 6:9, the historic trend throughout the 1923-70 period is one of a rising rate of exploitation (it should be stressed again that the observed rate of exploitation under-estimates the real rate, as it does not include surplus-value produced in the sector but realised outside it). The lowest point in the series is 1925 when, for every ten hours of necessary labour, productive workers on

average worked 3.5 hours of surplus labour for factory production bosses. The highest point is 1969, when for every 10 hours of necessary labour they worked 8.4 hours of surplus labour for factory production bosses. Bearing in mind the distinction between observed and real rates of exploitation, an unknown additional amount of surplus-labour was very probably worked. Graph 6:9 shows that the historic trend is indeed towards the relative impoverishment of the working class (this trend is examined in more detail below).

It is interesting to note that the rate of exploitation actually fell during the slump of the 1930's - when the rate of unemployment was the highest it has been in the 20th century to date, and when the absolute poverty and misery of the working class was at its peak. On the other hand, from the beginning of major state intervention in the economy in 1933, the rate of exploitation rose more sharply than in any other single year. The wage-cuts of 1931 apparently could not offset the falling rate of exploitation during this period. The cancellation of industrial awards between 1932 and 1934, and a 30% decline in trade union membership over the 1929-33 period no doubt contributed to the steep rise in 1932-33; the impact of the 40-hour week introduced in 1936 on the rate of exploitation is also clear.

CHAPTER SIX

The interrelationship between the rate of accumulation, the organic composition, the rate of profit and the rate of surplus-value is thrown into sharper focus when rates of change in the variables are compared year by year. Graph 6:10 reports the percentage fluctuation over the previous year for the organic composition. The changes here can be compared to fluctuations in the accumulation of capital (Graph 6:2). If the troughs are taken as indicators of the main trend, there is a clear relationship between the two variables from 1935 to 1968. Up to 1929, the variables move in the same direction. From 1929, they move in opposite directions, such that the rising organic composition coincides with a fall in the rate of accumulation. For the period 1929-1970 at least, an intimate relationship between the two can be observed.

Graph 6:11 reports the percentage fluctuation over the previous year for the manufacturers' rate of profit (before tax). The large fluctuations occur in 1931-33 (+65.7%), 1949-50 (-54.3%), and 1950-51 (+69.97%). A comparison between 6:11 to 6:10 (organic composition) should show an inverse relationship between the variables, other things being equal. And so it does, except for 1925 (both rise), 1929 (both rise), 1933-34 (both fall), 1936 (both fall), 1945-46 (both rise),

1958 (both rise), 1961 (both rise), 1966 (both rise) and 1969-70 (both fall). These conjunctions are explicable as follows: when the organic composition and the rate of profit fell simultaneously, this could happen because the rate of surplus-value fell even more sharply than the profit rate did; conversely, when the rate of profit and the organic composition rose simultaneously, it was because the rate of surplus-value rose even more sharply than the profit rate did.

To test these hypotheses, Graph 6:12 reports the percentage fluctuation over the previous year for the rate of surplus-value. If the changes shown are compared with those in 6:11, the marxian hypotheses are again confirmed *. This confirmation is, of course, to some extent dependent on the methods used by us to re-aggregate the official data; if the aggregation principles proposed by Steven, Hampton, Holland or Shaikh are used, no such confirmation is obtained.

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* Although the data are displayed in a way most conducive to visual comparison within the limits of thesis format, visual identification of the correlations between the graphs is not easy (in preparing the text, transparent overlays were used). The relevant values can be checked in Volume 2, where they are tabulated in appendix 7.C and 7.D.

CHAPTER SIX

Conventional economists ridicule the marxian categories of the organic composition of capital and the rate of exploitation. This attitude is odd on two counts. As shown in chapter three, their own theories are not corroborated by the data. When the same data is re-aggregated to accommodate the allegedly 'metaphysical' abstractions of Marx (organic composition and rate of exploitation), however, the degree of 'fit' between theory and data (verisimilitude) is radically improved.

Most generally, the long boom in revised factory production is explained by the fact that, after the great slump of the 1930's, the organic composition fell sharply. This fall made possible a sharp rise in the rate of profit, which in turn stimulated an increase in the rate of accumulation. As capital accumulated, the organic composition rose once more and, periodically, the profit rate fell. But in the main these falls were offset by increased rates of exploitation.

The operation of capitalist laws of motion in revised factory production

It is one thing to show that the value-ratios empirically co-relate as Marx thought they would. It is

another to demonstrate that good empirical grounds exist for believing that the observed 'fit' occurs as a result of the operation of the laws of motion he specified. To verify the causal connections between the various value elements, it is necessary to examine the data for evidence indicating the operation of each of these laws of motion.

In terms of our discussion in chapter four, the first law of motion is the relentless drive to raise labour productivity. According to Marx, a permanent revolution in plant technology arises out of the quest for surplus-profits. Surplus-profits accrue to firms consuming less than the average amount of living labour in producing commodities. As new technologies enhance labour productivity, the permanent technological revolution is simultaneously a permanent revolution in labour productivity. Within the framework of generalised competition, the quest for surplus-profits ensures that labour productivity in the long term is equalised between and within Departments at higher levels.

Labour productivity is measured as the quantity of living labour necessary to produce particular goods. The data do enable us to estimate the annual total of

productive labour hours worked (see Volume 2, pp. 262-65). However, data on the use-value structure of output in revised factory production is not available. And even if it were, it would still be impossible to construct consistent long-run series. The simple reason is that outputs change qualitatively over time. The output of e.g. transport equipment in the 1920's consisted mainly of horse-drawn carts. By the 1960's, this branch of industry had split into motor vehicle assembly, motor body construction and motor body repairs industries.

The value of raw materials turned over per productive labour hour can be used as a weak indicator of changes in average levels of labour productivity As shown in Table 6:3, the average level of labour productivity in revised factory production almost trebled during the 48 years to 1970.

But there are a number of difficulties in using the turn-over of raw materials as an indicator. It is impossible to control for changes in the content of raw materials. The proportion of more expensive raw materials used may increase or decrease, and the extent and type of processing undoubtedly changes over time. A further difficulty for the quantification of changes in

labour productivity is posed by price inflation. The values in Table 6:3 have been reflated using the Total Wholesale Price Index (see Volume 2, p. 24) because factories buy their raw materials wholesale and not retail.

The existence of different indices for different classes of goods might seem to contradict the marxian hypothesis that generalised competition causes higher levels of labour productivity to spread across all branches and sectors of industry. It should therefore be stressed that the equalisation of different levels of labour productivity occurs in the long term. Often technological and social barriers must be overcome before the process is completed. For marxists, longer-term differentials in rates of price inflation must reflect different rates of increase in labour productivity between and within departments.

By contrast, shorter-term differentials in inflation rates reflect relations of supply and demand between departments. Price indices can therefore be used to indicate the 'terms of trade' between Departments, and throw some light on conjunctural fluctuations in the curve of capitalist development.

CHAPTER SIX

As noted earlier, the peculiar unevenness of capitalist development in New Zealand precludes an exhaustive analysis of the unfolding of distinct economic conjunctures. In the absence of information about the production of capital goods destined for New Zealand, and about the circulation and distribution of New Zealand exports exchanged for those capital goods, the full story cannot be told. But by the same token, this uneveness does enable a rough analysis of changes in the relations between departments, using the different inflation rates as indicators.

Four suitable long-run price index series are available in official statistics. The consumer price index (CPI) measures changes in retail prices and is used to indicate inflation for ordinary consumer, i.e. V goods. In addition, there are three wholesale price indices. The Home Produced wholesale index (HWI) measures price changes for goods manufactured in New Zealand and sold wholesale. Because the vast majority of raw materials in revised factory production are produced locally, the HWI can be used as an indicator of price inflation for Cc goods. The imported wholesale index (IWI) measures price changes for imported goods. Because in New Zealand the bulk of machinery and tools are imported, IWI can be used to indicate price

inflation for Cf goods. The total wholesale price index is a weighted combination of HWI and IWI.

Graph 6:13 shows the CPI (line), HWI (dashes) and IWI (dots) for 1923-70 (1000 = Dec. 1977). It is evident that although the overall movement is similar, short-run and medium-term divergences occur, where prices for different classes of goods temporarily inflate at different rates. Thus, for example, Cf goods 'cheapened' relative to both V and Cc goods during the periods 1923-39 and 1955-67; Cc goods cheapened relative to V goods in 1925-39, and relative to Cf goods in 1942-48; Cc goods became relatively more expensive during the period 1953-1966.

Graph 6:14 displays such temporary divergences more clearly by expressing HWI and IWI as percentages of the CPI for corresponding years. It is plain that both Cc and Cf goods inflated more slowly than V goods between 1923 and 1939. Cf goods inflated more quickly than V goods during the 1940-55 period, but more slowly from then on. Cc goods inflated more quickly than V goods from 1947 and more quickly than Cf goods from about 1953.

On the assumption that short-term changes in the

relative rates of inflation reflect the terms of trade between departments, the evolution of the conjunctures can be sketched as follows: from the beginning of the series, prices for Cf goods decline relative to those for V and Cc goods, indicating an excess of supply over demand for machinery in the consumer-goods sector. Implicit in the over-supply of capital goods is the slow-down in demand for consumer goods, i.e. the consumer goods sector (Department II) no longer placed orders for additional means of production.

The slump is then generalised across the economy: in 1930, the recession in Department I turns the depression (sluggish growth) in Department II into a recession (negative growth), as falling incomes in Department I reduces the aggregate demand for consumer goods. First -from 1930 - price levels for V and Cc goods start to dip to the level of Cf prices. By 1931, excess capacity in Department II rebounds on Cc prices, and until 1933 all three price levels converge. In 1932, demand is depressed throughout both departments, i.e. the slump has reached its fullest extent.

Demand for consumer goods picks up again from 1933, which on Graph 6:13 is indicated by the growing divergence between CPI and IWI. By 1934, demand is

increasing for raw materials, as shown by the trend in the HWI. The demand for machine goods remains low until 1939, although a brief upturn occurs in 1937. Machinery and raw material prices rise more quickly than consumer goods prices from around 1943 (machinery) and 1947 (raw materials). The consumer goods sector is therefore already operating at full capacity; demand for additional means of production temporarily exceeds supply, altering the terms of trade between departments.

From 1953, machinery prices, but not raw materials prices, fall. The desynchronisation of IWI and HWI suggests that a technological revolution has taken place in the machinery sector, boosting labour productivity in that sector relative to the other two. This hypothesis is supported by the fact that for a period after the sharp divergence IWI and HWI develop along more or less parallel curves. In 1963, however, the demand for machinery begins to slow down again, as indicated by the brief sharp divergence between materials and machinery prices. By 1967, this slow-down begins to spread into the raw materials and consumer goods sectors, as indicated by the re-convergence of the three indices in the last years of the series.

CHAPTER SIX

The role of fixed capital in the formation of the organic composition

Competition between bosses in search of surplus-profits not only causes labour productivity to rise. According to Marx, it also drives up the organic composition. Surplus-profits reward firms that can produce goods using below-average amounts of labour. As the amount of labour required depends largely on the quantity and quality of production equipment available to workers, it is typically firms with above-average organic compositions which reap surplus-profits. Since each firm seeks to maximise its profits, every firm is sooner or later forced to improve the quantity and quality of technology used by the workers employed, and thereby raise its organic composition.

This trend should be reflected in value-relations. In the long term, one would expect to find that it is the more rapid accumulation of fixed capital which causes the organic composition to rise. But the organic composition can also rise even if Cf remains constant. After all, the share of Cc in total capital stock can rise; alternatively the share of V can fall. V will fall if wages are reduced, or if the number of productive workers declines, etc. Cc will rise if e.g.

labour productivity in the sector producing raw materials lags behind the level attained in the consumer and capital goods sector. To establish the validity of the marxian explanation for the basic curve of the organic composition observed in the data, the role of fixed capital in its formation must be ascertained.

One problem here is the huge difference in magnitude between Cf on the one hand and the stocks of Cc and V on the other. If absolute values for Cf, Cc and V are displayed on the same graph, this difference compresses fluctuations in Cc and V outlays in the graph, precluding clear visual comparisons. A more suitable way to compare all three simultaneously is to express each outlay as a fraction of total capital stock.

Graph 6:15 shows the quantitative relationship between Cf, Cc and V over time, by expressing each as a percentage of total capital advanced. One obvious feature is the inequality in shares of each of the elements. A further trend is - appearances to the contrary - the relative stability of Cf (line) in the investment fund. The share of V (dashes) ranges from 3.8% (1932) to 7.4% (1945) and that of Cc (dots) from

20.4% (1932) to 39.8% (1947); i.e. the range between the highest and the lowest value is around 100% for both. Cf varies from 75.7 (1932) to 53.1% (1947); a range of about 50% of the lowest value. Cf is thus quite clearly a more stable fraction of total capital advanced than either V or Cc.

Once total investment is split into three funds, it is apparent that much of the change in the share of Cf is offset by reciprocal changes in Cc. The conclusion to be drawn is that when Cf and Cc are combined, as they are in the organic composition, fluctuations in the share of Cf alone will be compressed, i.e. the organic composition is not a good indicator of changes in Cf investment.

Reporting the stocks as fractions of total capital stock does not allow us to pinpoint the causal connections at issue. Quite simply, a change in share of each stock might be the result either of higher levels of investment in that stock, or lower levels of investment in one or both of the others. Thus the question of whether the rising organic composition to 1932 resulted from increased C investment or from reduced V investment (due to e.g. lower utilisation rates of installed productive capacity during the long

depression) cannot be answered on this basis.

To overcome the problem, Graph 6:16 reports cumulated annual percentage growth rates for each stock to show the accumulation of additional capital. The picture that emerges is a quite complicated one. During the first part of the long depression, i.e. up to the slump, Cf rose both absolutely and relative to both V and Cc. In part, therefore, the rise in the organic composition during the period stems from additional investment in plant and machinery. In another part, it stems from some absolute falls in the level of V and Cc investments. The organic composition continued to rise in 1931, despite the fact that the total number of establishments in revised factory production fell by some 5%.

The fall in the organic composition from 1932 (25.10) to 1945 (12.45) is the result of increased V outlay and a static or declining Cf outlay. Whereas Cc begins to rise from 1932, and V from 1933, Cf does so from 1934. From 1936, V accumulates much more quickly than Cf. The sudden rise in 1936-37 no doubt reflects the introduction of a 40-hour working week and the restoration of wages to pre-slump levels. The fact that Cc and V growth rates run <u>parallel</u> from 1937 to

1947 suggests that much of the fall in the organic composition during this period is related to high utilisation rates of installed productive capacity. A brief rise in Cf occurs in 1938, but during four years of the war period (1940-43), the absolute mass of Cf falls. The outbreak of World War II made imports of fixed capital equipment difficult. Given the virtual absence of a domestic capital goods sector, the impact of the war on capital accumulation was to brake the increase of Cf relative to locally supplied V and Cc.

The accumulation of Cf begins to catch up with the accumulation of Cc and V only from 1953. The initial impetus for the rise in the organic composition from 1947 is attributable to a sudden rise in Cc. Most of the rise in the organic composition during the long boom is attributable to a rise in Cf. In part, it is also a consequence of decelerated accumulation of variable capital from 1947. In turn, this is most probably due to the exhaustion of labour reserves in the economy. Other things being equal, the labour shortage should result in (a) higher wages and (b) higher accumulation rates of Cf, both of which ought to depress the rate of profit, and thereby the curve of capitalist development. In New Zealand, the pressure on wage rates was reduced by state-assisted migration. It

is significant in this regard that, during the three years from 1947, a sixfold increase in the number of immigrants occurred. Undoubtedly migration played an important role in the prolongation of the boom (for the immigration trend, see p. 151).

Graph 6:7 shows a plateau in the organic composition from the 1960's. Such a plateau is not visible in Graph 6:16. The reason is that nominal dollar values were used to calculate the organic composition, whereas values in Graph 6:16 are adjusted for inflation using the CPI (for V), HWI (for Cc) and IWI (for Cf). It can be concluded that once the technological revolution and higher levels of productivity in the sector producing fixed capital equipment had spread to the sector producing consumer goods, the organic composition would be significantly higher again. The price indices are all base 1000 in December 1977, suggesting that the equalisation process had run its course by that time.

The preceding analysis confirms that the weight of fixed capital makes this element the single most important factor in the formation of the organic composition. For most of the period covered by our series, fixed capital constituted over 60% of total

capital advanced. The real rate of profit moreover was highest when fixed capital dipped below this level.

It should be remembered that fixed capital cannot simply be equated with outlays on tools and machinery. The aggregate also includes land and buildings (factory premises, sheds etc.). Whereas most machinery is imported, costs involved in land and buildings are chiefly determined in the domestic economy. This leads to the question of what fraction of the total Cf outlay represents tools and machinery costs.

Graph 6:17 indicates the composition of fixed capital stock by plotting plant and machinery as a percentage of the total outlay. It is evident that, except for the 1945-1960 period, land and buildings comprise an increasing proportion of total Cf stock. In part, this trend may be the result of longevity of buildings relative to machinery and land prices. Buildings are depreciated at a set rate, independent of the production costs of new buildings. Thus short-term market prices for old buildings depend more on such factors as location, labour productivity in the construction industry, etc. than they do on the extent of real physical depreciation.

The rise in the organic composition from 1945 coincides with a 15-year boom in outlays on additional or new machinery. This trend coheres well with our hypothesis that a genuine technological revolution occurred in Department I around the early 1950's. From 1962, the share of tools and machinery declines even further than it did during the 1932-45 period when the organic composition fell. As shown in Graph 6:16, the rate of accumulation of Cf fell only for a brief period (1966-68). It can be concluded that Cf investment from around 1960 went mainly into premises and construction.

This may have contributed to the prolongation of the boom. As pointed out earlier, from around 1960 the profit rate in revised factory production was maintained mainly through increased exploitation. Other things being equal, increasing exploitation must have set limits to workers' capacity to consume, and therewith reduced aggregate demand for consumer goods, i.e. the output of revised factory production. During the 1950's and 1960's, the construction industry expanded, initially to provide housing for returned servicemen, immigrants and other new workers (including the so-called 'urban drift' - i.e. proletarianisation - of the Maori population). To the extent that the construction boom was sustained by the renovation of

premises through the 1960's, consumer demand from construction workers in turn helped prop up the long boom in revised factory production.

Composition of circulating capital

In the preceding discussion, the circulating capital stock was equated with the outlay on raw materials. But Cc also includes other productive expenses and wage and salary payments to non-productive workers, each of which exerts a relatively autonomous influence on the formation of the organic composition. Graph 6:18 shows the stock for each component as a percentage of total Cc stock. The most obvious feature is the relative stability of the weight of each component throughout the series. The share of raw materials ranges from a low point of 68.8% (1968) to a high of 77.4% (1961); the only major fluctuations occur from 1958. The share of other productive expenses is at a high in 1968 (24.9%) and at its lowest point in 1961 (16.7%).

Graph 6:18 suffers from the same limitations as 6:15. All that can be established is that the relative shares change. Whether changes are attributable to rises in the mass of raw materials or falls in the mass of other productive expenses remains a moot question.

To help pinpoint the actual causes, Graph 6:19 plots cumulated growth rates for each of the three components. Once the data is presented in this way, it is clear that other productive expenses (dashes) shrink from 1951, and again from 1955, thereby raising the share of raw materials in the total Cc outlay. For the period to 1955, the growth rates of other productive expenses and raw materials (line) run parallel. From 1958, they fluctuate in opposite directions.*

A surprising trend is the relative independence of outlays on wages and salaries of non-productive workers (dots) from those on raw materials. Disregarding the pre-slump period, the curve of the former stays below that of the latter until the downturn of 1967. The cumulated growth of non-productive wages falls from 1929, and does not return to its 1928 level until 1940. The expenditure on wages of non-productive workers thus appears to be quite unrelated to the mass of raw materials turned over by productive workers. One might well ask what non-productive labour does, if its cost

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* The principal cause of the divergence in the growth rates of other productive expenses and raw materials from 1958 appears to be a alteration in the turn-over time of Cc. From 1949 to 1956, no data are available which permit the calculation of stock levels, which are estimated in our series (see Volume 2, pp. 385-422). The observed divergence could be the result of errors in the estimates.

grows fastest when economy activity falls ! The slow increase in growth rates during the 1928-40 period undoubtedly contributed to the falling organic composition at this time.

The concentration of capital in factory production

The third law of motion in capitalist development is the concentration of capital. This concentration has two dimensions. The firms that survive the battle of competition operate with larger and larger masses of capital. But other firms do not survive, and to set up in business requires more and more capital. The number of autonomous firms therefore shrinks, at least in the long term, and the economic ruination of the middle classes (self-employed operators, independent tradesmen etc.) swells the ranks of the working class. It should therefore be found that

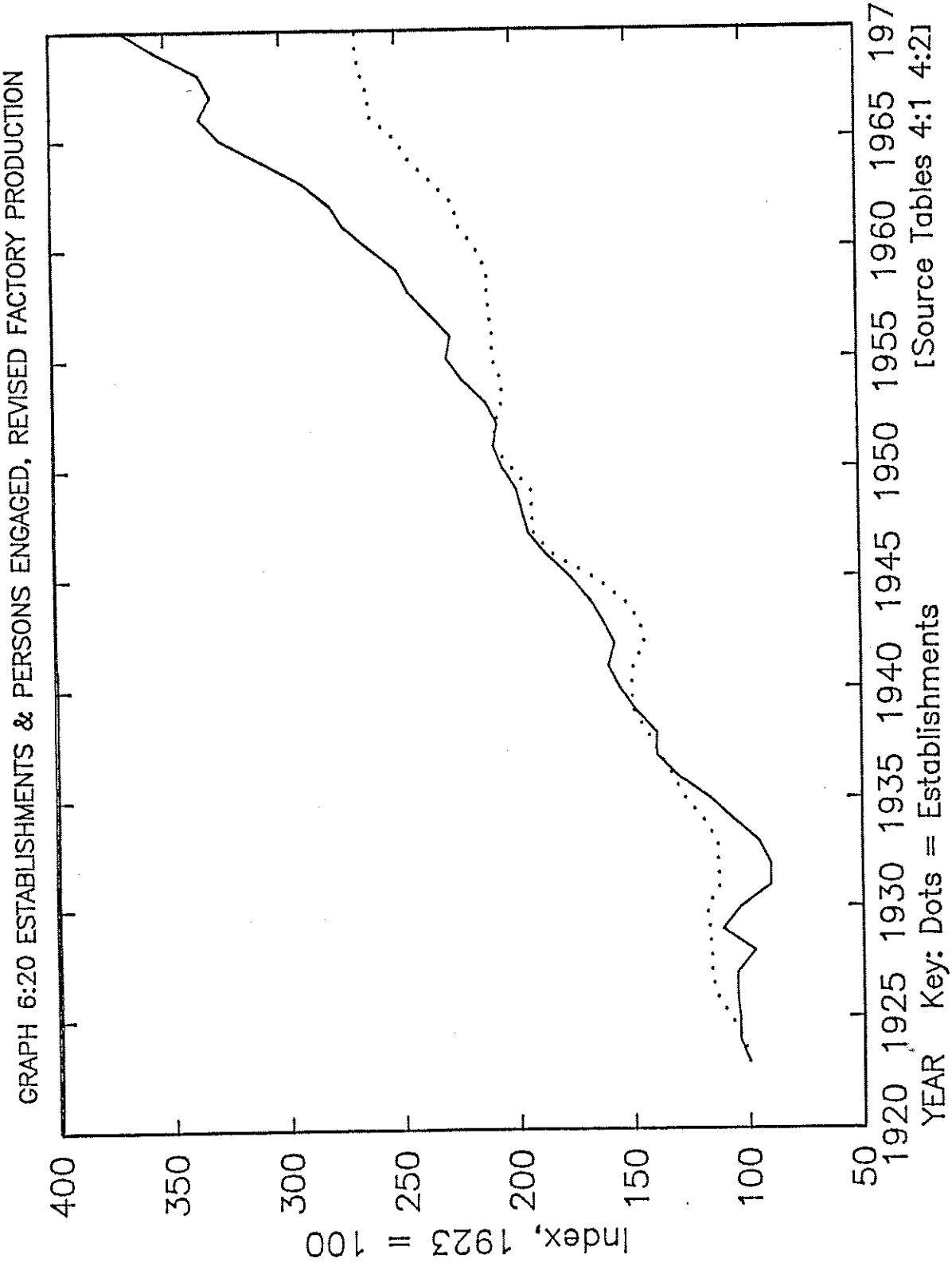
(a) the number of autonomous firms declines;

(b) the surviving firms operate with larger amounts of capital and engage an increasing number of workers;

(c) given (b), the amount of capital required to set up in business at the average level of productivity increases, acting as a relative barrier against the emergence of new firms;

(d) given (c), the weight of public (joint-stock) companies and limited liability companies grows over time;

(e) the weight of self-employed operators in the economically active population declines;


GRAPH 6:20 ESTABLISHMENTS & PERSONS ENGAGED, REVISED FACTORY PRODUCTION
Index, 1923 = 100
400
350
300
250
200
150
100
50
1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970
YEAR Key: Dots = Establishments
[Source Tables 4:1 4:21

(f) the size of the working class grows absolutely and relative to the other classes in the economically active population.

Legislation governing the publication of official statistics prohibits disclosure of the number of autonomous firms in the manufacturing sector. The official reports in fact classify establishments, not firms. The problem here is that any number of establishments may be legally owned or effectively controlled by a single firm. The number of establishments undoubtedly exceeds the number of firms - but by an extent which is unknown.

Graph 6:20 indexes the total number of establishments (dots) and persons engaged (line) in revised factory production. During the long depression, the number of persons engaged fell more dramatically than the number of establishments. This trend confirms the claim made earlier that the rise in the organic composition during this period owed as much to a fall in V as it did to a rise in C. From 1936 to about 1953, the two variables rise more or less at the same rate. From 1953, however - at the same time that the level of Cf in total capital advanced rises - the increase in the number of establishments is much less than the increase in the number of persons engaged. In

1900, the average number of persons engaged per establishment was 12.6; by 1969, this number had risen to 22.9 [13].

Despite the fact that the average number of persons engaged almost doubled, most New Zealand factories remained relatively small employers over the whole of the period (see Table 6:4).

Table 6:4 Establishments By Persons Engaged

	Establishments With Persons Engaged Numbering-				
	10 or Under	11-20	21-50	51-100	Over 100
	Percentage of All Establishments				
1924	65	16	13	3	3
1968	62	17	13	4	3

Since the proportion of small establishments remains as good as constant, the increase in the average number of persons engaged can only be due to an increase in employment in the larger establishments.

Statistics detailing the "legal character" of establishments in factory production are also available (see Table 6:5).

Table 6:5 Establishments By Character of Organisation

	No.	% of Total	% of All Added Value	No.	% of Total	% of All Added Value
		1923			1970	
Individual	1463	33.7	10.9	873	8.2	0.9
Partnership	924	21.3	9.8	426	4.0	0.7
Public Reg. Company	426	9.8	34.6	1034	9.8	34.8
Private Reg. Company	980	22.6	27.1	7910	74.7	58.3
Government	116	2.7	5.1	108	1.0	1.1
Co-op. & Misc.	426	9.8	12.5	236	2.2	4.3

The trend here is towards the absolute dominance of limited liability companies, which rise from 32.4% of the total in 1923 to 84.5% in 1970. In 1923, limited liability companies accounted for 61.7% of total Added Value in factory production. By 1970, this proportion had risen to 93.1%. Noteworthy also is the decline in the number of co-operative organisations (most of these were diary factories co-operatively owned by the farmers who supplied them).

Another approach to estimating the increased preponderance of large firms is to calculate the percentage of total persons engaged in large establishments. Official data classifies establishments by the number of persons engaged in five divisions (under 10 persons, 11-20, 21-50, 51-100, and

100+). Table 6:3 showed that most establishments engage less than 10 persons. At the same time, it has always been the case that large establishments engage the most operatives. Table 6:6 reports the proportions for 1924 and 1970.

Table 6:6 Persons Engaged By Establishments

	Establishments With Persons Engaged Numbering -				
	10 or Under	11-20	21-50	51-100	Over 100
	Percentage of All Persons Engaged				
1924	16	14	23	14	32
1970	9	10	18	15	49

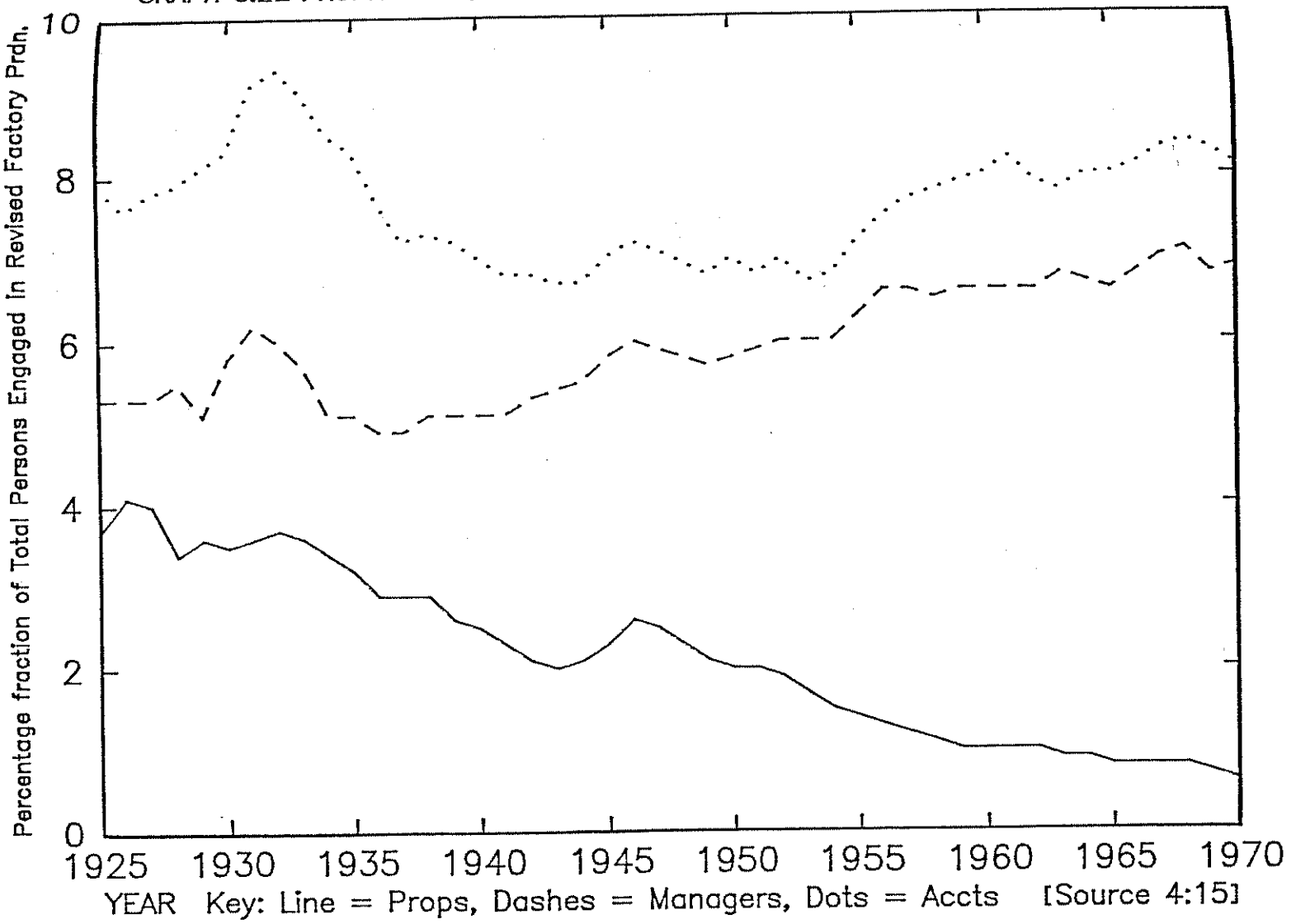
In 1923, more than half (53%) of all persons engaged in factory production worked in establishments that engaged less than 50 persons. By 1970, this proportion had fallen to 37%, and almost half (49%) worked in establishments engaging over 100 persons.

To test the thesis that the concentration of capital acts as a barrier to the founding of new autonomous firms, Graph 6:21 reports the average capital stock per establishment for 1933-70, expressed in multiples of the annual net income of the average male productive worker for corresponding years. As could be expected, the barrier was lowered

substantially during the period the organic composition fell (1932-45). Whereas in 1935, it required the equivalent of 60 year's wages (or the combined annual wages of 60 workers) to set up in business at the average level of productivity, only a little over 40 were required in the immediate post-war period. Through the long boom, however, the amount rises more or less continually to about 80 in 1970.

It is true that, given access to credit facilities, a business can be set up without its founder(s) personally advancing the entire initial outlay. It is also true that new businesses can be established with a below-average stock of capital. But in either case, the new business would probably return less than the average rate of profit and consequently be in a weaker position in economic downturns. On the other hand, it is never possible for workers to save even half their annual net income. A cursory examination of estate duty statistics makes this very clear. In 1961, for example, 51% of all estates passed for death duties in New Zealand amounted to less than four years' net income for the average male productive worker [14]. That is why joint-stock arrangements (public and limited liability companies) have become the norm in revised factory production.

GRAPH 6:22 PROPRIETORS, MANAGERS & CLERKS AS FRACTION PERSONS ENGAGED



Census reports classify the economically active population of New Zealand by "occupational status" ("employers", "self-employed", "employees" and "relatives assisting"). In 1896, employees (wage and salary earners) comprised 67.4% of the economic active population, as against 11% employers, 12% self-employed and 9.7% relatives assisting. In 1981, the figures were 86.2%, 6%, 7%, and 0.9% respectively.

Graph 6:22 reports non-productive persons engaged in revised factory production by occupational function, as a percentage of total persons engaged. Whereas for every 100 persons engaged in 1925 there were 4 proprietors, 5 managers/overseers and 8 accountants/clerks, there were 0.6 proprietors, 7 managers/overseers and 8 accountants/clerks in 1970. The big change in proportions concerns proprietors - a reduction of 800%. It has already been pointed out that the vast majority of New Zealand firms are now limited liability companies, which almost certainly means that a number of those who are classified as managers/overseers in 1970 are in fact owners of the businesses they manage. In 1970, 6.9% were managers/overseers as against 5.3% in 1923. Let us assume, for the sake of argument, that all of the increase in the proportion of managers/overseers is

attributable to the niceties of legal definitions, and that the true rate of proprietors is not 0.6% but 2.2%. Even on this most generous reading of the data, the number of proprietors is still halved during the 1925-70 period.

Using a strictly orthodox marxist definition of the working class (all those who derive their income solely from wages and salaries, i.e. who cannot accumulate capital), the majority of managers/overseers (and probably all accountants/clerks) in revised factory production are members of the working class. Conventional sociologists habitually decry the marxian proletarianisation thesis. They consider that the emergence of the so-called "new middle class" (the "service" sector, the expansion of the white-collar workforce, and so on) is such an obvious refutation of the marxian "two-class model" that only a dogmatist could countenance it.

More often than not such "refutation" is tautological, i.e. marxists are not met on their own ground. First the meaning of "class" is suitably debased from socio-economic antagonism to socio-economic difference pure and simple. If class simply denotes socio-economic difference, it is obviously very

easy to discover all sorts of "classes". But the problem then becomes one of discovering a way to stop finding "classes" before every single person is in a "class apart". Conventional sociology shies away from this ultimate conclusion, because without social classes there can obviously be no sociology. Without regard for any norms of analytical rigour, the typologies are fixed precisely at the point where the marxist view is "refuted" but the "concept" of class - and thereby sociology - is saved.

But in factory production data, the proletarianisation thesis stands up even if a conventional sociological criterion of class distinction is adopted. Graph 6:23 reports the average gross annual income of male proprietors (dots), managers/overseers (dashes), and accountants/clerks (line), expressed as a percentage of the average gross annual wage of male productive workers (the productive worker's income = 100%). It is plain that the three incomes converge. The greatest income differential is that between productive workers and managers/overseers in 1934 (214%). By 1970, this differential is reduced to 153%.

Graph 6:24 makes a similar comparison. In this

case, the average gross income of women in the different occupational groupings are calculated as a percentage of the average annual gross income of male productive workers. Leaving aside proprietors (no one argues that proprietors are in the working class !), the long-term trend is towards an equalisation both between women and between women and the average male productive worker.

What makes this historic equalisation all the more remarkable is that it is based on gross incomes, i.e. before the effects of progressive income taxation are taken into account. After deduction of excess tax, the average hourly wage rate of female productive workers in 1970 becomes 61% instead of 50% of its male equivalent. The persistence of inequality by sex and occupational function can and should be fought. What cannot be denied is that, in terms of remuneration, the working class became more homogeneous even prior to the equal pay legislation of the Third Labour Government.

Class struggle and the observed rate of exploitation in revised factory production

The fourth law of motion in capitalist development is inescapable struggle between classes. The formation

of wage levels beyond the minimum required for the physiological maintenance of the worker, the length of the working day, the intensity of labour and the organisation of the labour process - all are largely determined by ongoing struggle between bosses and workers. By implication, the magnitude of variable capital (which appears in each of the key marxian value-ratios) is determined through class struggle. Thereby, the magnitude of surplus-value too is always contingent on the historically emergent relationship of class forces. Existing relations between classes and historical rates of exploitation are undermined by rising organic compositions - which are themselves the result of inter-capitalist competition. Bosses are forced to raise rates of exploitation to maintain profit rates in the face of rising organic compositions.

It was shown previously that there are historical turning-points at which, but for an increased rate of surplus-value, the rate of profit would have fallen, or fallen further, lowering the rate of accumulation and thereby the growth tempo. It follows that the length of the long boom depended in good part upon increased rates of exploitation, i.e. on workers being required to perform what was from their own standpoint

additional unnecessary labour.

If class struggle is its chief determinant, alterations in the rate of surplus-value ought to be reflected in contemporaneous changes in the level of strike activity. Substantial increases in the rate of surplus-value should go hand in hand with equally substantial strike waves by workers resisting these increases. Of course, a mechanical connection (such that, say, a 10% increase in S/V automatically entails a 9% increase in the duration of strikes) cannot be expected. In terms of the discussion in chapter four, an inverse relationship can be expected between the scope of strike activity and the level of unemployment. Under the pressure of high unemployment, workers' resistance to "incomes policies", speed-ups etc. will be weaker. The principal determinants of the alignment of class forces are moreover both economic and extra-economic. They include, among others, the degree of political cohesion and organisational strength of workers as well as bosses - which are shaped and mediated by all sorts of superstructural factors.

Statistics on the level of strike activity and lock-outs for all industries in New Zealand are available from 1920 (no attempt is made in this study

to compile long-run series for establishments in revised factory production only). Information is available concerning the number of stoppages, workers involved, working days lost, estimated loss of wages, firms affected, lock-outs and the duration of stoppages (see Volume 2, p.444-476). Graph 6.25 reports the annual number of workers involved in stoppages 1920-1984. The curve breaks into four distinct periods.

During the years to 1943, the number of workers involved was relatively low; ranging from a low of 2,323 in 1935 and a high of 15,682 in 1939. During each of the eight years 1944-1951, more workers were involved in stoppages than had been in any of the 24 years to 1943. The high point during this second period was reached in 1950, when the number rose to 91,492 (i.e. around five times the maximum number during the first period). A third period emerges with the subsidence of the wave of the second period, for 10 years, 1952-61, the number of workers involved stayed relatively low again. Depending on whether peaks or troughs indicate the main trend, a fourth period begins in 1961 or in 1965 and runs to the end of the series. As is obvious, the number of workers engaged in direct struggle with their bosses grew during the 19 years from 1965. During the final period the high point of

the 41 preceding years (1950) was exceeded 11 times; in 1970 and 1973 and each year from 1976. The high point in the series (201,085 workers) is 1976. Since 1976, even the low point in 1980 (127,651 workers) exceeded the 1950 level by more than 30%.

The number of workers involved shows the extent of confrontations between bosses and workers but does not reveal their intensity. To enable an assessment of the intensity of class struggle, Graph 6:26 shows the number of working days lost each year through stoppages, in units of thousands of days. In general profile, Graph 6:26 resembles 6:25. The four periods discernable in 6:25, for example, remain visible in 6:26. As a rule, where the number of workers involved is high, the number of days lost is also high. But there are major exceptions.

The first period, a long ebb in class struggle, which lasts until 1944 in Graph 6:25, continues to 1946 in 6:26. As well, in Graph 6:26 two upturns in strike activity appear which were not apparent in 6:25, namely in 1923 and in 1932. The second period, an upturn in class-struggle, is shorter in 6:26, yet the relative difference between the first and second periods remains: the high point in the second period (1,157,390

days in 1951) is around five times that during the first (201,812 days in 1924). The shape of the third period (1952-65) is similar in both graphs, although in 6:25 the average level during this third period remained above that during the first; whereas Graph 6:26 shows class struggle ebbing below the level of the first period during the third. The fourth period has the same basic shape in both graphs, despite the fact that the rise in 6:26 does not come close to matching that in 6:25. Whereas the tide of class struggle rose during these years, therefore, it rose more in extent than in intensity *.

Another way the intensity of the struggle between workers and bosses can be assessed is against the estimated income "lost" to workers involved in stoppages **. Graph 6:27 reports official estimates for wages "lost" annually through stoppages converted to thousands of constant (1984) dollars. The four

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* The separation of "extent" from intensity has begun to disappear; 586,185 days were lost in the first 10 months of 1985, in the first 5 months of 1986 1,020,959 days were lost (Department of Statistics Information Release 86/42 & 86/42),

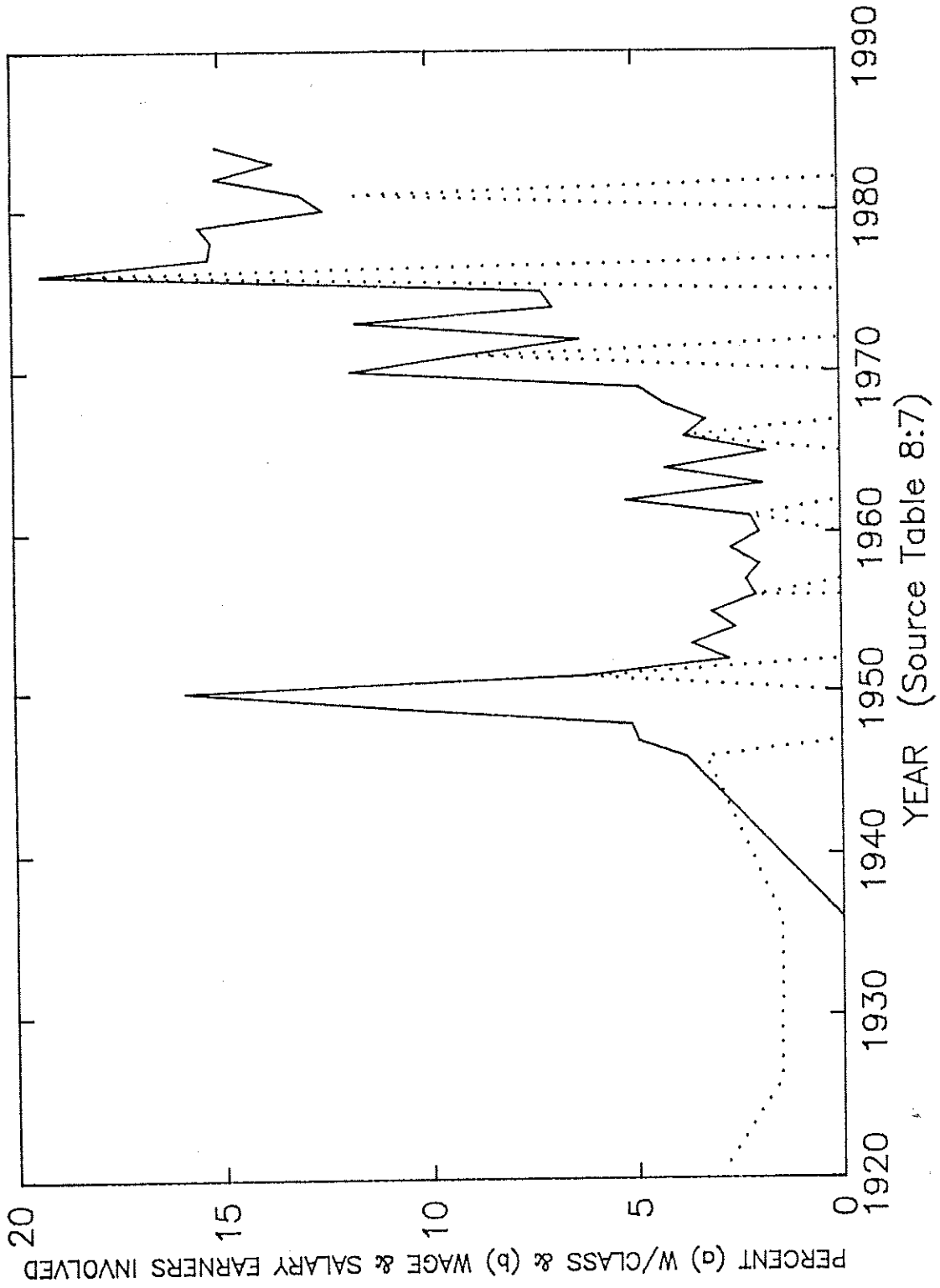
** the statistical category of "wages lost" must be regarded as ideological. It ignores the fact that, whereas strikes entail a loss of income in the short term, such forfeiture is necessary lest workers are forced to perform extra surplus labour, i.e. "lose" additional unpaid labour to their bosses.

distinct periods in the series are even more clearly visible in 6:27 than in 6:25 or 6:26. During the first period, to 1946, the maximum loss in wages occurs in 1932 ($3,958,000). The high point in the second period is 1951 ($62,144,000), i.e. almost a sixteen-fold increase. The high point during the third period is 1962 ($5,145,000), i.e. a twelve-fold decrease. The high point reached during the fourth period is 1976 ($49,080,000), i.e. almost a ten-fold increase over the 1962 total.

Judging by Graph 6:25, the greatest surge in class struggle in the series takes place in 1976. According to Graph 6:26, however, the surge in 1976 was much weaker than that in 1950. According to Graph 6:27, the surge of 1950 was undoubtedly greater than that in 1976; but the upturns in both years stand out strikingly from all the other years in the series. Conversely, all three graphs indicate 1952 as the year of the greatest ebb in class struggle recorded in stoppage statistics.

If fixed according to the number of workers involved, the curve of class struggle is biased towards "extent". It is biased towards "intensity" when fixed according to working days lost. The wages lost

GRAPH 6:28 FRACTION OF WAGE & SALARY EARNERS INVOLVED IN STOPPAGES



indicator fairly consistently falls between the former two, suggesting that it may encompass both determinations to a certain degree in one measure. Insofar as this is the case, it is a more adequate indicator of the overall level of class struggle.

The strike and lock-out figures used to this point do not make allowance for changes in the size of the labour force. For a proper comparison, it is necessary to control for the total number of workers economically active. One difficulty here is that annual labour force statistics are available only from 1946. Prior to this date, the only figures available are those reported in the quinquennial census.

Graph 6:28 reports the number of workers involved in stoppages as a percentage of the total of wage and salary earners. The dotted line simply connects results calculated using census totals of wage and salary earners for 1921, 1926, 1936 and 1945. Fluctuations in intervening years therefore are not registered. The solid line shows results calculated using official labour force data (see Volume 2, pp. 452-54). Throughout the period to 1970, the fraction of workers involved in stoppages exceeds 5% only in 1949-51 and 1969-70. From 1969, the 5% level is exceeded every

year; from 1975, it exceeds 10% every year.

The extraneous influence exerted by the size of the workforce on the data can be evaluated at the hand of a comparison of Graphs 6:28 and 6:25. From 1946, when annual data are available, both graphs exhibit a similar profile. The same general trends are visible, and each of the particular fluctuations in Graph 6:25 can be observed in Graph 6:28. Only two significant departures are obvious after adjustment for the size of the labour force: (a) the post-war explosion of class struggle registers much more strongly and (b) whereas both graphs indicate that the level of class struggle was low in the years 1952-61, Graph 6:28 indicates more clearly that this level was also falling during this period.

It can be concluded that there exists no mechanical correspondence between the number of workers involved in stoppages and the number of workers in the labour force. This leads to the question of which factors do promote or facilitate class struggle. As already discussed, the general marxian answer is, in a manner of speaking, "double-jointed": on the one hand, workers are <u>forced</u> into struggle to resist rising rates of exploitation (surplus-value) deriving from rising

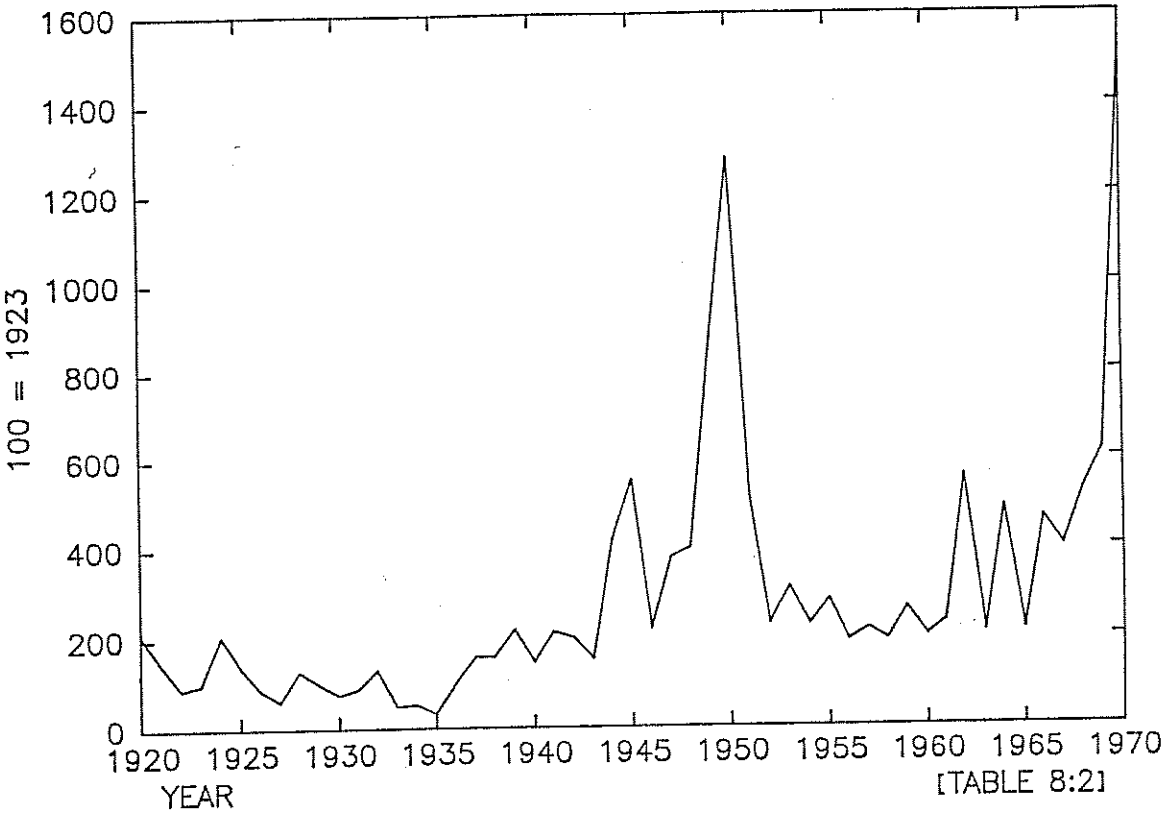
organic compositions; on the other hand, the ability of workers' to wage the struggle (to resist their relative impoverishment) depends both on economic and extra-economic factors (see above).

In any given conjuncture, all the various "push" and "pull" factors operate simultaneously and condition each other. But it is not possible to deal with all variables at the same time, or combine them in a single graphical representation. For this reason, the two types of determinations of the propensity to struggle - "compulsion" on the one hand, "capacity" on the other - must be treated separately. Once the analysis is complete, both can be assigned their place in a synthetic explanation.

The compulsion of workers to struggle

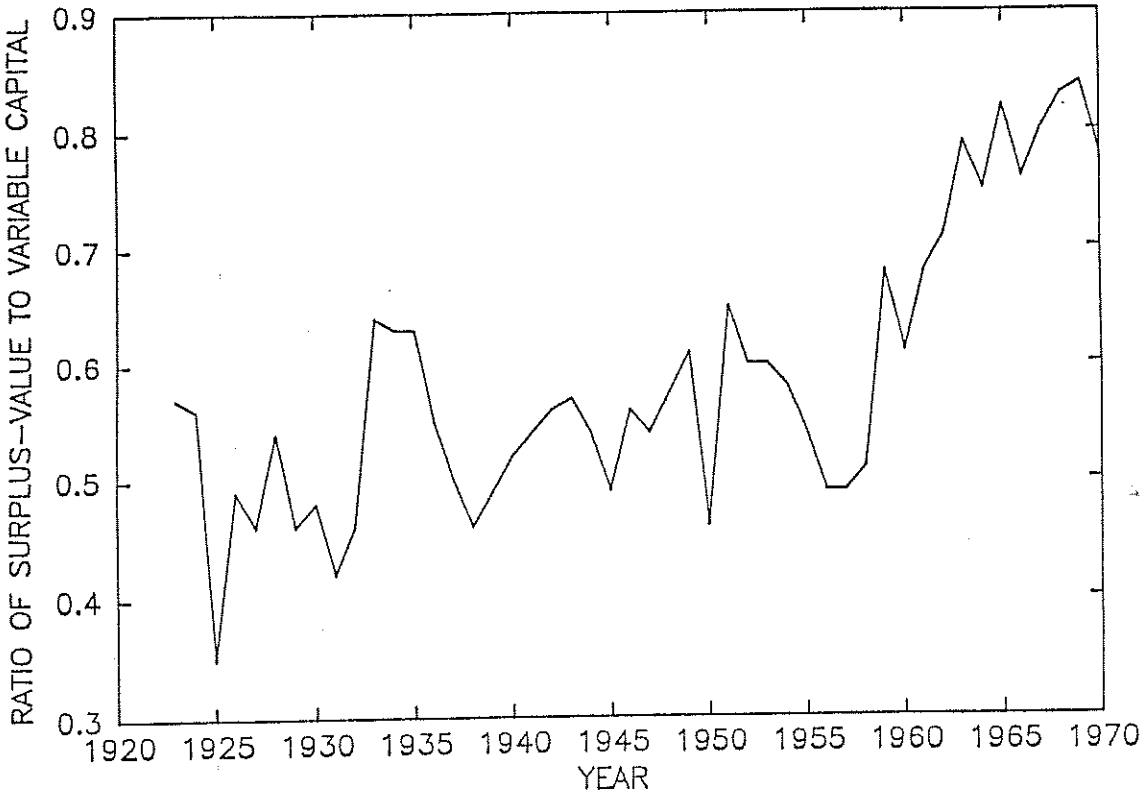
Because the requisite labour force data is not available prior to 1946, and lacking estimates for S and V since 1970, an historical comparison of the rate of surplus-value with the strike rate adjusted for the size of the workforce only be made for the 1946-70 period. As shown above, however, the adjustment of the raw data for the size of the workforce does not appear to distort the historical curve. Hence valid

GRAPH 6:29 WORKERS INVOLVED IN STOPPAGES (INDEX)



[TABLE 8:2]

GRAPH 6:3 RATE OF EXPLOITATION, REVISED FACTORY PRODUCTION



conclusions can be drawn from non-adjusted stoppage figures for the 1923-70 period.

In Graph 6:29, the number of workers involved in stoppages annually are indexed for the 1923-70 period (1923 = 100). Comparing this curve with the S/V curve yields the following results: the upturn in class struggle (henceforth "CS") in 1923 corresponds to a fall in S/V in 1924; from 1924, when CS falls, S/V rises; the highest pre-war level of S/V corresponds to the lowest level of CS; from 1935 to 1939, CS rises and S/V falls; from 1939 to 1943, S/V rises and CS falls. The sharp rise in CS during 1943-45 has its mirror-image in S/V; the fall in CS in 1946 and its subsequent rise is again mirrored by S/V (note that the 1948 figure is missing in the S/V series); between 1947 and 1949, both S/V and CS rise together; the peak of CS in 1950 corresponds to a sharp fall in S/V; the sharp drop in CS in 1951 - the largest in the series - coincides with the biggest year-to-year increase in S/V through the entire series (41.93%); from 1951, however, <u>both</u> CS and S/V fall. From 1957, S/V climbs more or less continuously, whereas CS grows cumulatively only from 1965. Nevertheless each fluctuation in S/V correlates with a contemporaneous fluctuation in CS.

The tight 'fit' between the two curves is all the more remarkable in that S/V covers productive workers in revised factory production only while CS encompasses the total labour force. Let us recall here that the percentage of the total labour force engaged in revised factory production from 1949 ranges from a low of 18.36% (1952) to a high of 22.62% (1970) (see Volume 2, p. 165).

Up to 1951 and from 1965, therefore, changes in CS are largely explicable in terms of changes in S/V. To be sure, many historical circumstances must be integrated in the analysis for a complete explanation. It remains to be explained e.g. why, during this period, small changes in CS at some points coincide with relatively large changes in S/V. The 1951-64 period moreover presents an apparent anomaly: S/V declined despite the fall in CS *. Ceteris paribus, one would have expected bosses to take advantage of the relatively low level of worker militancy to raise S/V.

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* In part, the S/V trough in 1956-57 resulted from the rebating of personal income tax with the advent of PAYE. This part of the S/V decline during these years would not have been felt in the manufacturers' profit rate.

CHAPTER SIX

Workers' capacity for struggle

Having examined the basic factors propelling workers into struggle, their capacity to wage this struggle must now be analysed. In terms of our previous discussion, the first condition in this respect is the level of (un-)employment. To illustrate changes in the rate of employment, Graph 6:30 plots annual productive labour-hours worked in revised factory production (in units of millions of labour hours). Hours worked by females is recorded on the dotted line, those worked by males are given in the dashes, and the total is shown in the solid line. Steep cyclical declines occurred in the early 1930's, 1952, 1956, and 1967. Short-run fluctuations aside, there are two major breaking points in the series: 1938 and 1952. In the 16 years to 1938 only a slight increase was recorded. Between 1938 and 1952 the number grew steadily if slowly. From 1952, although growth is less steady, the overall growth rate is visibly stronger than it was during the earlier two periods.

In New Zealand, as in other capitalist countries, the official unemployment figures tend to understate the real levels, principally because they record "registered unemployed" only. Since, generally

speaking, workers only register as unemployed in order to be eligible for the unemployment benefit, anyone ineligible for this benefit on other grounds (e.g. spouses of employed workers) are unlikely to register. For this reason, the best statistics are those self-reported in the quinquennial censuses. But even these need to be treated with caution, because inter alia they depend on subjective evaluations of "what counts" as unemployment [15].

Graph 6:31 reports census totals of unemployed workers as percentages of the total economically active population. Up to 1940 the relatively high levels of unemployment ("U") inhibited the ability of workers to struggle, which probably is the main explanation for the relatively small number of workers involved in stoppages at this time. From 1935, when U falls, the number of workers involved in stoppages rises. For the whole of the 1940-71 period, U remains relatively low. It rises a little in 1951, and reaches its lowest point in 1961. The apparent anomaly in the S/V : CS relation (both fall during 1951-64) is compounded in Graph 6:31, as U also falls. Indeed, it is only after 1961, when U rises once more, that strike activity picks up. According to Labour Department statistics, notified job vacancies between 1952 and 1962 ranged between 17,647

(1952) and 5300 (1959) [16].

In the light of Graphs 6:30 and 6:31, not only was U probably at its lowest point in the entire history of New Zealand capitalism; there was apparently also a labour shortage. This shortage moreover persisted in the face of a sharp increase in the number persons eligible to join the labour force which flowed from state assisted migration. The labour shortage explains why bosses did not use the manifestly low level of CS to raise S/V. Other things being equal, workers in this situation could be expected to struggle for higher wages - so why didn't they ?

One possible explanation for why CS remained at a low ebb from the mid-1950's to the mid-1960's is that the labour shortage altered the relationship of class forces - to such an extent that individual workers were able to wring better wages and conditions out of their bosses without any union intervention. Rosenberg took this view in a 1972 polemic against the IMF, the World Bank, and New Zealand bankers and economists who advocated the removal of import controls. Rosenberg perceived a "paradox of faster wage rise with unemployment". Whereas from 1967, wages (and prices) "spiralled, largely as a result of collective

bargaining", between 1954 and 1966 (i.e. the period of full employment) wages had grown more slowly:

> When workers before 1967 did not worry much about their unions and negotiated directly with their employers on their "above award" payment, in the situation of economic weakness in which they found themselves due to the 1967/69 recession, they had to fall back on concerted action. And so from 1967 onwards we have seen in New Zealand a rapid rise in wages, unprecedented in industrial history. The threat to full employment, implied in the declared intention of Government to dismantle import controls makes it, of course, even more necessary for the individual wage and salary earner to look to collective action for his protection. In such circumstances individual bargaining with employers becomes useless. (...) To the extent that... full employment [prevails]... wage and salary earners in New Zealand... will be in a better mood to listen to propositions of bringing sacrifices for the sake of the nation as a whole... Industrial history has proved that industrial peace and readiness to accept a degree of incomes policy is present when union members live in conditions of full employment opportunities. It needs the hard school of unemployment and depressed conditions to teach workers the value of militant and collective action. That is what unemployment teaches them [17].

To test the Rosenberg principle of worker compliancy under full employment, Graph 6:32 plots the curve of the after-tax ordinary hourly rate of the average productive worker in revised factory production for the period 1933-70, in constant 1984 dollars (see Volume 2, p. 301-03). At first sight, the principle appears to stand up to the evidence. The hourly rate did grow faster in 1935-50 than subsequently. In the

fifteen years 1935-50, the male rate rose from $2-67 to $4-48 (+68%) and the female rate from $1-25 to $2-77 (+122%). Over the next two decades, the male rate rose to $5-58 (+25%) and the female rate to $3-41 (+23%). In the first period the rate for males rose 4.5% annually on average, as against 8.1% for females. In the second period, the rate for males rose on average 1.2% as against 1.1% for females.

On closer examination of the figures, however, the apparent confirmation of the Rosenberg principle turns out to be spurious. In the first place, the restoration of pre-slump wage rates and the introduction in 1936 of a 40-hour week (without loss of pay) account for much of the increase to 1950. Between 1935 and 1938, the rate rose by 94 cents or 35% for males, and by 36 cents or 29% for females. In the case of male productive workers, over half of the rise over the 1935-50 period is accounted for by the jump in 1935-38, as against a quarter for their female workmates. Secondly, during the period leading up to and including the 1930's slump, real wages fell absolutely because - on this most historians are agreed - of high unemployment. Finally, the long-run trend of wage rises begins only after 1940, i.e. after the unemployment rate had fallen to a level similar to that of the 1954-66

period. It must be concluded that the Rosenberg principle cannot account for the evolution of real wages. Low unemployment manifestly coincides with both rapid and slow wage increases at different times. The explanation must therefore be sought elsewhere.

From the standpoint of orthodox marxism, a crucial semi-independent variable acting in conjunction with the unemployment rate is the organisational strength and unity of the working class. An empirical test of this hypothesis is difficult, because no synthetic measure of organisational strength or social solidarity is available. As a first approximation, Graph 6:33 plots the membership of unions registered under the Industrial Conciliation & Arbitration Act for 1923-73, using the time series constructed by Roth (the figures do not include members of major public sector unions) [18]. Until 1930, membership remains relatively stable at around the 100,000 mark. It falls by around 29% from 101,526 in 1930 to 71,888 in 1933.

This indicator can be supplemented with other historical information. Elsewhere Roth estimates that 33.75% of all wage and salary earners (including unemployed) were union members in 1920. In 1935 (when union membership was already on the rise again !), the

proportion had dropped by almost one-third to 20.73% [20]. The number of workers affiliated to the Labour Party through their unions fell continuously from 1930 (45,481) to 1935 (24,663) [21]. Undoubtedly this erosion of class solidarity owed much to high unemployment. Using a variety of sources, Macrae and Sinclair estimate the rate of unemployment in mid-1933 as follows [22]:

Table 6:7

Category of workers	% unemployed
European adult males:	12.0
European male minors:	5.0
European females:	12.0
Maori males:	40.0
Maori females:	35.0
Average rate, all workers:	12.0

According to Roth, the number of unemployed in 1932 in fact exceeded the unionised workforce [23].

High unemployment facilitated a vicious attack by the bosses on wages and conditions. In 1932, the Government abolished the compulsory powers of the Arbitration Court so that, whenever conciliation failed, industrial awards automatically lapsed - with the result that workers were forced to accept whatever bosses offered. However much workers might have been

compelled to struggle to maintain their wages, most of them now lacked the capacity to do so.

Since the early years of the 20th century, the trade union leadership comprised both militant syndicalists and reformist moderates [24]. The utopianism of the syndicalist programme became increasingly transparent in the new situation. On the one hand, the long depression forced Labour Party militants to the Right; on the other hand, from 1919 (beginning of the long depression) the liberals were forced into alliances with parties further to the Right, being absorbed eventually into the United Party and the United-Reform Coalition. The right-ward shift of the entire political spectrum alienated moderate union leaders from liberalism, and aligned them with the Labourists. As political differences between militants and moderates lessened, the workers' movement was re-united and strengthened.

In this way, the sheer depth of the crisis forced a political realignment within the workers' movement. Syndicalism gave way to Labourist reformism, as workers looked for <u>political</u> solutions to social and economic problems. During the early phases of the long depression, radical social movements practically

dormant since the turn of the century had revived [25]. In the 1930's, these movements were largely absorbed into the Labour Party and thereby into the workers' movement [26]. The small if vociferous Communist Party provided the only political alternative for workers at this time. Through its organisation of unemployed workers (the National Unemployed Workers' Movement) and agitation among women, the CP played a significant political role and, for a certain period, its membership grew [27]. By 1934, however, the pro-Labour National Union of Unemployed had largely supplanted the NUWM [28].

The re-integration of the workers' movement on the basis of a reformist programme left the Communists politically isolated. (In the course of its right-ward evolution, the Labour Party in 1925 prohibited CP members from joining it). When the Labour Party won the 1935 election, the Communists projected that Labourist reformism would be incapable of forestalling the impending collapse of capitalism. Around every corner there lurked a recession still deeper than in 1930-33. The workers, euphoric about the Labour victory, paid little heed to the prophets of doom. For them, the forty-hour working week, higher wages, and economic recovery under the benign regime of the mixed economy

was empirical proof that the perspective of the Communists was simply wrong.

With the introduction of compulsory unionism (1936) and the formation of the Federation of Labour (1937), trade union membership began to rise rapidly on all indicators *. Total union membership rose from 102,934 in 1935 to 286,237 in 1940. The membership of unions registered under the IC&A Act more than trebled, rising from 80,929 in 1935 to 254,690 in 1939. As no census was taken in 1941, no good estimate is available for the percentage of total wage and salary earners that were union members in 1940. But the fraction climbed from 20.73% in 1936 to 59.63% in 1945 [30].

Graph 6:34 shows the membership of unions affiliated to the FOL as a percentage of the total membership of unions registered under the IC&A Act. Two trends stand out. Firstly, an uneven decline occurs between 1941 to 1953. From 1954, however, the fraction begins to grow, reaching a new high in 1968 (89%). The fall in the early 1940's, also visible in Graph 6:33, is attributable largely to the war effort.

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* The Labour Party itself was a major beneficiary of compulsory unionism. It and the Political Disabilities Removal Act of 1936 boosted membership and Party funds [29].

Graph 6:35 shows the percentage of male productive workers of the total productive workforce in revised factory production. Throughout the long depression, this fraction declines. In 1937, it starts to rise again, but with the outbreak of war in 1938 it falls sharply, reaching an all-time low of just over 66% in 1942. Conscription of male productive workers, the consequent relative feminisation of the productive workforce, and the deployment of other temporary workers undoubtedly contributed to the dip in union membership between 1939 and 1949.

The impact of the war on working class solidarity was contradictory. The depth of the social, political and economic crisis unified the working-class movement and by stages disabled the overtly bourgeois political opposition. The substance of the Labour Party programme was the subordination of sectional interests to the interests of the Dominion. As shown earlier, the economic upturn beginning in 1933 boosted profits. During the first term of the Labour Government, profits and wages rose, giving credence to the formula of economic nationalism. On the one hand, there was no effective political opposition to Labourism; on the other hand, the reformist project seemed successful. The new World War broke out before major economic

obstacles to reformism were encountered.

The only opposition to the Government came from within the working class: resistance to conscription and to measures taken to prevent strikes for the duration of the war. To overcome this opposition, it was necessary to co-opt the trade union leadership. In 1940, following joint meetings of the Labour Party and the FOL executive, a manifesto was drawn up which proclaimed that "The trust and confidence of the whole labour movement must now be vested in the Cabinet and the political Labour Party". The Government undertook to implement necessary steps to ensure:

> 1. that no person or group of persons will be allowed to profit either directly or indirectly from the sacrifices made by the workers during the war emergency. 2. that all other sections of the community will be required to make sacrifices equal to those made by the workers. 3. That these sacrifices will be for the period of the war emergency only. 4. That organised labour will be given a voice in the administration of all war emergency measures directly affecting the workers [31].

"Organised labour" was "given a voice" by the incorporation of FOL leaders into the policy-making apparatus controlling industrial relations *. Despite the fact that their leaders helped supervise an equitable distribution of sacrifice required by the war

effort, the observed rate of exploitation in revised factory production rose for five consecutive years from 1939, and the profit rate rose until 1943. Hence the emergence, already in 1941, of strikes in defiance of the regulations. Complaints by some delegates at the FOL annual conference in 1944 that miners, seamen and watersiders used their Government posts to give workers in their own industries wage rises, but impose "stabilisation" on others, signalled that the cohesion of workers' movement was dissolving [33].

In 1946, Walsh proposed to the FOL that war-time stabilisation should be continued to avoid inflation and economic disruption. This proposal was endorsed by the FOL in 1947 but with a rider: profits, too, should be restricted. The issue split the union leaders into two camps. The Right wing supported Walsh, while the Left reiterated the FOL demand that the means of production, distribution and exchange be socialised.

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* The extent of state intervention in industrial relations was detailed in chapter three. FOL nominees were appointed inter alia to the Industrial Emergency Council; the National Industrial Emergency Disputes Committee; the National Service Advisory Council; the Manpower Committee; Hours Committee; the Apprenticeship Committee. FOL leaders McLagan, Walsh and Eddy were appointed to important administrative functions. The FOL was well-represented at the Economic Stabilisation Conference and, during the term of the first Labour Government it nominated the Minister of Labour [32].

From 1947, the rate of exploitation and profit rose sharply. Correspondingly, between 1946 and 1950, many key unions rejected the policies of the Labour Party and the FOL. In 1949, the National Party won the general election, partly because state intervention prevented farmers from profiting from high world prices for their output, but in part also because workers became disillusioned with Labour in the immediate post-war period - profits, but not wages, rose considerably.

The bosses took advantage of the internal strife besetting both the Labour Party and the FOL to launch their Cold War offensive against state economic intervention, communism, and wage rises [32]. They staged attacks on militant unions, the most spectacular being the 151-day waterfront lock-out. When these unions turned to the FOL for support, however, the FOL executive denounced them as Communist-inspired and refused to come to their aid. After an vicious faction-fight, 68 delegates claiming to represent 75,000 workers (i.e. one-third of the number affiliated to the FOL) withdrew from the FOL and attempted to build an alternative federation (the New Zealand Trade Union Congress).

This project failed. The FOL claim that communist

agitators were behind the militancy of the dissident unions was seized upon by the bosses and their Government. The militants mostly represented semi-skilled workers who, through past militancy, had won high wages. Bosses pointed to wage differentials between members of militant and moderate unions, arguing that further wage increases were unjustifiable and that, but for Communist infiltration, there would be no industrial unrest. In the heat of the faction-fight within the FOL, some moderates had come out in support of the militants. These subsequently returned to the FOL fold under pressure of the bosses and the Government.

The post-war explosion was, on all indicators, the greatest surge in class struggle experienced in New Zealand to that time. The largest number of stoppages (154) was recorded in 1945, the highest number of firms affected (1,315) was recorded in 1949, the largest number of workers involved (91,492) was recorded in 1950 and the most days and wages lost were recorded in 1951.

The major confrontation in occurred in 1951. In a dispute over wages, waterfront workers banned overtime and were locked out. The Government de-registered the

NZ Waterside Workers' Union, appointed receivers to seize the union's funds and records and deployed military troops to work the wharves. Almost 15,000 workers downed tools in support of the 8,000 watersiders. Commenting on the defeat of the militants, Roth concludes that "As in the case of the earlier major waterfront strikes of 1890 and 1913, the outcome was utter defeat of the unions involved and a weakening of the union movement as a whole" [33].

Roth perceives the origins of the wave of class struggle in the post-war wage restraint under conditions of escalating prices and profits. He considers that "properly conducted, a wage struggle could have mobilised a large measure of support". Where, then, did the militants go wrong ?

According to Roth, the principal cause was the divisions within the organised labour movement, and ultimately misleadership: Barnes and Hill "did not believe that they needed any assistance. Like the Irish revolutionaries of Sinn Fein ("Ourselves Alone"), they were convinced that the watersiders alone by their own strength could overcome all obstacles"; "had they swallowed their pride", they "might have saved their organisation and lived to fight another day". Barnes

repaid the watersiders' "magnificent loyalty by leading them to defeat and destruction" [34] *.

Roth's interpretation stresses subjective factors at the expense of objective ones. He assumes that a peacefully negotiated real wage increase remained a possibility - despite the existence of "good evidence that the employers, as in 1913, deliberately goaded the workers into a breach of their agreement" [36].

But, as shown in Graph 6:7, after a slight fall (attributable mostly to the return of male, higher-paid productive workers), the organic composition of capital rose in the immediate post-war period, exerting a downward pressure on the profit rate. The war postponed an inescapable showdown between the classes. In part as a result of this postponement, the unity of the workers' movement eroded. To be sure, unity also

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* After the defeat of the watersiders the Government called a snap election which it won with an increased majority. In terms of industrial organisation, the main casualty of the defeat of 1951 was the replacement of the deregistered unions with site unions: the nation-wide NZ WWU was replaced by 26 distinct port unions; the Wellington, Nelson, Marlborough and Taranaki Freezing Works, Abattoir and Related Trades Employees Union was replaced by 12 separate "shed" unions for the freezing workers and three unions for the abattoirs; The Wellington Drivers' Union was broken up into six distinct unions; "Only the miners and seamen, among the striking unions, returned to work with their organisations intact ... [35].

dissipated through misleadership. In this respect, the class-collaboration and opportunism of Labour Party and FOL functionaries was more important than the syndicalism of the militants *.

When wages failed to keep pace with rising profits and consumer prices, many workers reverted to old-style syndicalism. The Communist Party -then the only working-class political alternative - reinforced this tendency by arguing as usual that the economy was headed for a slump and that wages would necessarily fall absolutely [38].

The bosses chose the moment of reckoning on the basis of their assessment of the relationship of class forces. Initially they targeted only the most class-conscious workers, creating the impression that they

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* Roth himself notes that "Ten years later, the Federation of Labour could still boast that not the Government but its own actions in 1951 had saved the country from 'complete disruption of industry and pitched battles', a claim seemingly supported by the Prime Minister, K.J. Holyoake, who told Parliament in 1960 that the National Party had been 'fortunate in that the Federation of Labour, the responsible workers' leaders, stood firmly with the Government. The task would have been impossible without the Federation's aid". The task - the destruction of the militant wing of the union movement - was successfully accomplished'" [37]. That the FOL could still make such claims publicly in 1961 indicates more clearly than any statistic that the workers' movement then had still not recovered from the defeat of '51.

would be the only target. They struck at the moment they judged the "vanguard" and the main trunk of the labour movement had diverged to the maximum extent. They took advantage of a slight increase in unemployment. They used the state machinery to raise the demands on the watersiders, rendering a negotiated settlement impossible. Finally, they used the Korean War to discredit communism; they discredited reformist socialism by pointing to the Labour Party's connections with the union movement, which was in part led by Communists.

When the FOL split, Labour Party parliamentarians - by rejecting the crude anti-communism of the FOL* and calling for a "mutually agreed" (i.e. conciliated) settlement against the the militants - tried to find a space between the factions. Their attempt failed. FOL leaders attacked Labour politicians for their 'neither for nor against' attitude. The rift between the 'political' and 'industrial wings' of the labour movement widened.

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* The parliamentary leader of the Labour Party is reported to have remarked that "All this talk about the cold war of Communism is humbug" during the waterfront dispute [38].

CHAPTER SIX

Economic growth faltered in the mid 1950's. Labour won the general election of 1957. Its electoral success undoubtedly owed much to the widespread (but false) belief that Labour's policies had pulled the nation out of the long depression. But whereas voters expected policies similar to those of 1935, the preamble to the "Black Budget" of 1958 declared that

> The Government recognises that a comprehensive import control policy, while contributing materially to a solution of our balance of payment difficulties, will not by itself correct the basic cause of those difficulties. It must be supplemented by fiscal and monetary measures designed to establish a more stable economy in which the demand for imports more closely approximates our ability to pay for them [39].

Whereas workers thought that Labour would use import controls to protect jobs and raise revenue (i.e. make the bosses pay for the recession), it imposed additional taxes on workers' consumption (tobacco, beer and petrol) and a wage-stop [40].

Having gained nothing during the post-war strike-wave, workers became disillusioned with the ability of unions and the strike weapon to deliver a fair share of the national product. Having gained nothing from the Second Labour Government, which acted to prolong the consequences of the '51 defeat, workers became disillusioned with politics (see Volume 2, p. 495-97).

The impact of 1951 registers in all graphs in this chapter. FOL membership fell dramatically from 80.5% of registered unionists in 1949 to 66.9% in 1953 (Graph 6:34). Total registered union membership fell in 1949 and 1952 (Graph 6:33). The rate of exploitation dipped sharply in 1950, but rebounded in 1951 to the highest level since 1933 (Graph 6:9). In 1951, the manufacturers' rate of profit rose to its highest point in the 1923-70 period (Graph 6:8). The year 1950 marks a slow-down in real average hourly wage increases (Graph 6:32) *.

On all indicators, there was a dramatic fall in class struggle from 1952 to the mid-1960's. Only from 1965 does strike activity rise again. Contrary to the Rosenberg principle, it was thus the "concerted action" of bosses, the Government and the Right wing of the FOL in destroying the leadership of the militants which explains the low ebb of class struggle in the mid-1950's and 1960's, despite (1) a rising of exploitation from 1958 and (2) full employment during the same period.

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* the bulge in 1956-57 in the real average hourly wage rate, is explained by the fact that workers paid no income tax during the transition to PAYE (see Volume 2, p. 269, 295).

CHAPTER SIX

Having finally explained the apparent anomaly, the fourth law of motion - inescapable class struggle, linked to the accumulation of capital *via* the organic composition - is vindicated in the historical record of capitalist development in New Zealand. If extra-economic factors have to be introduced to explain the level of class struggle, they must also integrated into any marxist account of the curve of capitalist development.

Quite simply, the wages of productive workers, a component in *all* the key value-ratios to which marxists appeal, are co-determined by class struggle (they are, as noted, also determined by the average labour productivity in Department II). Hence until the role played by extra-economic forces has been integrated into the analysis of the formation of variable capital, the marxian analysis of capitalist development cannot be complete.

Additional remarks on variable capital

Other noteworthy extra-economic determinants of wage-levels in New Zealand during the the 1923-70 period have been immigration and differential pay rates for adult men, youth and women. Variable capital is the

equivalent of the reproduction cost of workers' capacity to labour. But this cost includes more than the minimum required for the physiological reconstitution of the productive workforce. It also encompasses a moral-historical element . In the words of Marx,

> This historical or social element, entering into the value of labour, may be expanded, or contracted, or altogether extinguished, so that nothing remains but the physical limit... By comparing the standard wages or values of labour in different countries, and by comparing them in different historical epochs of the same country, you will find that the value of labour itself is not a fixed by a variable magnitude, even supposing the values of all other commodities to remain constant [41].

The corollary of this elastic 'historical cost' is that reproduction costs can vary according to socio-cultural norms and expectations (as shaped by social struggle). As noted, when the forty-hour week was introduced in 1936, the basic minimum wage-rate for adult male workers was fixed at "such a rate as would, in the opinion of the [Arbitration] Court, be sufficient to enable a man in receipt thereof to maintain a wife and three children in a fair and reasonable standard of comfort" (see above, p. 259). Obviously not every worker provides for "a wife and three children" and some have to provide for more. Differences in remuneration by sex and age developed

precisely because the vast majority of women and young men did not have four dependents, their reproduction cost consequently being lower *.

For immigrants growing up in societies where the standard of living is different to that considered "fair and reasonable" in New Zealand, wages here can be higher or lower than the requisite for their reproduction. During the long boom, the workforce in New Zealand was expanded by immigrants from all over the world. The effects of this movement can be quite complicated. Many came from Europe; many others came from the South Pacific. The standard of living, generally speaking, was much higher in Europe than it was in the Pacific Islands. During this period, New Zealand claimed the fourth highest standard of living in the world. This largely explains why so many European immigrants (notably the Dutch) were able to set up in business. They earnt much the same as their New Zealand workmates but were able to save, whereas their workmates could not and so often wound up working for them. Moving from a region where the standard of

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* this should not be construed as an apology for pay inequalities by sex or age. According to bourgeois norms of distribution, payment should reflect work done, irrespective of race, sex or class. Workers must therefore strive to ensure that wages are flexible upwards from the level mentioned by the Court.

living is low to one where it is high does not necessarily imply a stronger "saving ethic", primitive accumulation and embourgeoisement. Despite coming from areas with lower living standards, newly urbanised (proletarianised) Maori and Pacific Islanders were unable to save enough on similar wages to amass the range of durables (housing, cars, etc.).

Undoubtedly migration acted to restrain wages - and thereby variable capital - during the long boom. It is not possible to assess its precise influence, because aggregate wage payments cited in factory production reports do not discriminate recipients by ethnic origin. The only relevant information available relates to the net gain or loss of population. Just how many immigrants joined the productive workforce is unknown.

Similarly the information to hand on wage differentials by age is insufficient to enable an accurate assessment of the effects of youth rates in revised factory production. The main trend through the 1923-70 period was for pay differentials between adults and minors to diminish in the long term.

Available data do however allow us to assess the

consequences of changes in the sex structure of the productive workforce. Prior to 1936, the standard working week for women and youth was 45 hours, as against 48 for men. To this point, therefore, fluctuations in income-shares do not directly indicate fluctuations in the number of hours worked by female productive workers. When the share of V paid to women rises then, other things remaining equal, both S/V and C/V will be higher than they would have been had the share remained constant.

To assess the impact of alterations in the sex composition of productive labour on the formation of variable capital, Graph 6:36 shows the annual percentage growth rate of variable capital stock in revised factory production and Graph 6:37 shows the share of variable capital earnt by female productive workers ("Q"). There is a clear (but not mechanical) inverse relationship between the two variables. The bulge in Q during the war years coincides with decelerated growth in total V. Similarly, the rise of Q in the early 1950's coincides with the fall in total V. From 1957 to 1966, where all the fluctuations in Graph 6:37 are also visible in 6:36, the alteration in the sex composition could only account for a small part of the fluctuation in the growth of total variable

capital stock.

It thus appears that the sex composition of productive labour plays a certain role in the formation of variable capital. Some idea of the influence of Q on S/V can be gained by comparing Graph 6:37 with Graph 6:8. Until around 1960, the correlation is generally positive. The sharp rise in S/V until 1928 coincides with an equally sharp rise in Q. A rising Q to 1933 slightly precedes the pre-war peak in S/V. In 1938, the bulge in Q corresponds to one in S/V. The sharp upturn in S/V following the defeat of 1951 is also registered in Q, and the fall in Q in 1955 is matched by a fall in S/V. From 1961, however, S/V rises while Q falls. It seems likely that one of the variables determining alterations in S/V is changes in the sex composition of productive labour.

Finally, the movement of Q can be can be checked against the organic composition (Graph 6:7). Again, until around 1936, the two curves mirror each other, suggesting that the substitution of female for male productive labour contributed to the big increase in the organic composition during the slump. The fall in C/V from 1938 includes a rise in Q. But for this rise, C/V would have dipped even lower at this time. The

rising organic composition from 1945 correlates with a falling Q, which means that C rose faster than V, despite the fact that more expensive male labour was being used.

It is evident that the sex composition of the productive workforce exerts a definite influence in the formation of all key value-ratios in the marxian explanation of the curve of capitalist development. To determine its precise magnitude of influence demands painstaking and detailed historical analysis quite beyond the scope of this study. The same applies for all other "extra-economic variables". In the value-analysis pursued in this study, it is only possible to estimate in a rough and ready way the influence exerted by the size and strength of class-wide forms of association.

Results of the value-analysis

To repeat the formula used in chapter one, the dialectical method of analysing the curve of capitalist development shows where historical investigation must enter in: it provides a non-arbitrary framework raising problems and anomalies which can be solved only by reference to superstructural factors. Thereby the

economic analysis is enriched, and new problems are continually thrown up in a double helix.

Economic analysis is only a starting-point. But without it, history is just a concatenation of "factors" and events in the positivist sense. Each of these "factors" is somehow related to every other, but since no factor is more basic than any other, the relations between them cannot be known. Causalities "discovered" then depend almost entirely on the questions asked and the order in which phenomena are investigated, i.e. on which variable is chosen as the independent one for the purpose of the investigation - real, objective relations are traded for subjective choices [42].

1. Our point of departure in this chapter was the rate of accumulation, and for a very good reason: capital accumulation (transformation of surplus-value into capital) is the life-blood of bourgeois society. From the standpoint of marxist economic theory, the curve of capital accumulation (and not national income) is the curve of capitalist development.

Fixed according to the growth rate of accumulated capital stock, this curve departs significantly from

the Net Output curve (Graph 6:5, p. 424). Conceptually GDP as the principal national product measure differs from Net Output only in that the former includes certain imputed values. No attempt was made to link the adjusted NIMP curve of chapter one into the the value analysis in this chapter, since accelerated capitalist development cannot be read into rises in official national income.

2. A comparison between Graphs 6:5 and 6:8 (p. 442) provides good empirical evidence to support the marxian thesis that the rate of profit conditions the rate of accumulation in an immediate way. In turn, however, the accumulation of capital is conditioned by generalised competition, so that the rate of profit is periodically undermined by the over-accumulation of (fixed) capital.

3. At first sight, the observed evolution of the organic composition violates the marxian law that constant capital continually grows faster than variable capital. Whereas this might appear to contradict our theory, it is in fact the logical precondition for any marxist explanation of the long boom. Either we accept the organic composition fell after the great slump of the 1930's, or we deny that the long boom ever

happened.

All sorts of tendencies can counter the depressive consequences of a rising organic composition (increases in rate of surplus-value, accelerated turnover of capital stock, etc.). But even if all such counteracting influences acted simultaneously, positively and permanently, on their own - i.e. without some decline in C/V from the 1933 level - they could not have produced the long boom.

Marxists who do conceive of a continual rise in C/V from the turn of the century, offset by counter-tendencies during the long boom, are faced with an unenviable task: they must explain how both the rates of accumulation and surplus-value could rise continually for 25 years without the S/V rate being undermined by full employment and class struggle. Let us recall here that the reason Marx considered "counter-tendencies" to be counter-tendencies (i.e. subordinate to the principal tendency) was that their continual operation has repercussions elsewhere in the system which undermines their causal efficacy.

4. The manifest fall in the organic composition from 1933 is in part explicable in terms of the

collapse of the international credit system in 1931. The very high C/V up to 1933 therefore did not obtain during periods of 'normally functioning capitalism'. In revised factory production, data portraying C/V in the period of 'normal capitalism' prior to 1919 is not available. It is consequently impossible to assess how much significance should be attached to the collapse of the credit system.

Obviously the re-activation of installed plant and equipment not or under-utilised during the slump years entailed some decline in the ratio of C to V. But a fraction of total fixed capital stock was also destroyed (devalorised). The value of Cf in revised factory production fell absolutely - by almost 1% in 1930, 3.3% in 1931 and some 8% in 1933 (see Volume 2, p. 187). The decline of C/V was aggravated by the restoration of pre-slump wage levels and the introduction of the 40-hour working week without loss of pay in 1936. The decline in C/V continued to 1945 because in wartime new fixed equipment was difficult to obtain, and because the value of existing Cf stock declined absolutely each consecutive year from 1940 to 1943 (12.22%, 7.29%, 6.40% and 6.22%; i.e. in total a drop about three times larger than in 1930-33) (Ibid.).

5. The first two stimulants of the long boom were the fall in the organic composition just discussed and a simultaneous rise in the rate of surplus-value. In 1947, the profit-rate rose sharply, but by 1951-52, however, this impetus was largely exhausted. Cf declined 5% in 1951 and almost 3% in 1952, and the total number of establishments also fell in 1952-54 (see Volume 2 p. 145 & p. 349) *.

Because values for manufacturers' stock levels were not recorded in official statistics during the years 1949-1956, values have been estimated. The slight downturns indicated in the C/V curve in 1952-54 and 1955-57 may be a function of the estimates. If in these years the rotation of capital slowed down, real levels of constant capital stock will be understated. Declines in C/V in the 1950's, therefore, could result from such under-estimation. As well, part of the fall in C/V in 1956-57 results from income tax adjustment;

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* This fall followed a sharp increase in the number of establishments, largely due the fact that "Considerable assistance was given to ex-servicemen who wished to establish themselves in business... Nearly 11,500 business loans were authorised for ex-servicemen who wished to set up in business; 3,800 of these were for transport undertakings, 1,400 for building and related trades, 1,100 for professional services, 1,700 for retail stores, and 3,500 for other types of businesses" [43].

the cessation of excess tax prior to the advent of PAYE raised real wages of productive workers, and thereby, V by around 4%.

6. The boom was prolonged when, in 1951 - after almost a decade of intense class struggle - the working class suffered a massive defeat. In its wake, key unions were 'restructured' and class-conscious workers were demoralised. The policies of the Second Labour Government spread this demoralisation. The principal reason that high rates of surplus-value could be maintained despite relatively full employment (disappearance of a reserve army of labour) was the defeat of '51. Other, supplementary factors include state assisted migration during the 1950's and 60's and the re-absorption of women into the productive workforce.

7. Brief, weak downturns at the conclusion of trade cycles aside, strong economic growth was transformed into a genuine long boom. The final factor sustaining this boom was a technological revolution in Department I [44]. This revolution made itself felt in New Zealand from the mid-1950's through the cheapening of fixed equipment relative to raw materials and wage-goods, as indicated by price indices (Graphs 6:13 and

6:14). The effect of a technological revolution in Department I is a reduction of the time necessary to produce wage-goods, facilitating expanded surplus-labour in Department II. It was assumed, but not demonstrated, that competition compelled bosses to introduce new technology. Insofar as qualitatively new technology played a role in prolonging the boom, it is necessary to adduce evidence for its introduction and its economic significance.

The composition of fixed capital (Graph 6:17, p. 473) shows a dramatic increase in the plant and machinery component of fixed capital from the end of the war. No doubt the first phase of this expansion represents a 'topping up' of stocks depleted during the war. But the high level was maintained up to 1955. It did not fall back to pre-war levels until 1960, despite the fact that plant and machinery prices fell sharply relative to other stocks from 1952. Considerable renovation of plant and machinery must therefore have taken place in the 1950's.

Graph 6:38 provides information about energy consumed in manufacture. It shows the outlay on coal as a percentage of total energy costs. In 1952, coal represented more than half of all energy costs. From

1952, the fraction slides rapidly to 18% in 1970. No doubt part of this trend is accounted for by a fall in oil and electricity prices *. Whatever the causes, however, the consequence was the supersession of steam power as the prime mover of industrial machinery during the long boom. Because the prime mover was replaced, technological renovation from the mid-1950's must be judged qualitative and not quantitative, i.e. revolutionary and not evolutionary. In New Zealand, the shift was mainly to electrical machinery, i.e. machines incorporating their own motors. When machines could harness power generated at a (remote) distance, firms were freed from having to supply their own central power source. Despite a threefold increase of state investment in electricity generation and supply between 1942 and 1951, electricity supply fettered the transition from steam to electricity until the 1960's (see Volume 2, p. 138).

The final piece of evidence adduced for the technological revolution is the productivity of labour, as indicated by Table 6:3 (p. 456). At the end of the war, the value of raw materials turned over per

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* in turn, this implies a more rapid increase in productivity in oil extraction than in coal mining, due to the same technological revolution.

productive labour hour was around $10. By the late 1950's, it had risen to $15.

8. What remains to be explained is the plateau in the organic composition from 1962 (refer Graph 6:7, p. 438). In our opinion, this plateau is due less to an actual change in value-relations than to a divergence between reported book-values for plant and machinery and real values.

Book-values can always diverge from actual values. Real values are understated if the appreciation of site-values are insufficiently accounted for, or if excessive allowance is made for depreciation. Conversely book-values overstate real values if insufficient allowance is made for depreciation and obsolescence. Economists accordingly distinguish between historic cost and current replacement cost. Around 1970, company accountants resorted to so-called 'creative accounting' techniques to overcome the problem. It was claimed that because book-values understated real asset-value, depreciation allowances were 'artificially' reduced, raising company taxes excessively.

The problem appears only during periods of

constant cumulative inflation. Price inflation occurred during most of the long boom. It became an accounting problem in the 1960's because by that time the bulk of plant and machinery had been renewed while current replacement costs continued to rise, an unfortunate circumstance not recognised until equipment had to be replaced.

9. Finally, counter-tendencies could not contain the strong rise in C/V in the early 1960's. By the mid-1960's, there are clear signs that the conditions for growth identified were being exhausted; the long boom was coming to an end. From 1965, price indices re-converged; the profit rate fell even in the face of rising inflation; strike activity was on the increase, and the rise in the rate of exploitation was being halted. The growth impulse given by the technological revolution was spent once the new technology became the norm in the production of raw materials and wage-goods. Likewise, favourable conditions for accumulation resulting from the smashing of the working class in 1951 disappeared. The prime cause in both cases was the increased rate of exploitation. The anti-worker policies of the Second Labour Government reunited the majority of the trade union movement on a more militant basis.

RESULTS AND PROSPECTS

Summary conclusions were presented at the end of each chapter; there is no need to recapitulate them here. The task which remains is rather to draw the strands together in an overall balance-sheet of what has been achieved, to point out the limitations of the study, to suggest directions for future research, and to address the question posed in the title of our study.

The new bandwagon

The study was introduced with a discussion of the relationship between marxism and sociology. Three years ago, when we began our research, vulgar anti-marxism as an intellectual trend was still rather subdued. At that time, our discussion might have seemed a rather esoteric and unnecessary digression, out of place in a doctoral dissertation. In the intervening years, however, such irrationalist anti-marxism has grown -to the point that scholars do not have to justify their crude assertions with cogent argument and evidence anymore.

RESULTS & PROSPECTS

The sheer magnitude of the ideological shift is perhaps best indicated by the contents of the latest issue of the Socialist Register, which is devoted to the crisis of social democracy [1]. Out of 19 contributors to the volume, 18 regard this crisis as proof that revolutionary marxism is out of date. The editors - including Ralph Milliband, one-time proponent of the instrumentalist theory of the state - go so far as to vent political 'accusations' against revolutionary marxists, arguing they are part of the problem just as much as social democrats:

> ... tightly-organised, democratic-centralist organisation has proved to be a very good recipe for top-down and manipulative leadership, for undemocratic centralism and the stifling of genuine debate... [It has been] a transit camp from innocence and enthusiasm to disillusionment and bitterness [2].

In the light of such gross assertions, we feel that our starting-point is entirely justified. We could indeed be criticised for paying insufficient attention to it. In this regard, it is with considerable satisfaction that we note the publication of a new journal, the first issue of which is given over to the questions raised (but not adequately answered) in our introduction [3].

RESULTS & PROSPECTS

History and theory

We linked the apparent 'crisis of marxism' to the current crisis of capitalism and the crisis of stalinism, and sketched the dimensions of the social, political and economic crises in New Zealand. We so arrived at the dilemma of 'reform or revolution', and concluded that while the current crisis presents an anomaly for reformist theorists, the long boom is anomalous for marxist theory.

In view of the classical revolutionary marxist perspective of the world-historical decline of capitalist civilisation, the internal coherence of revolutionary marxism can be preserved only if the long post-war boom of capitalist development can be traced back to the operation of the laws of motion of capitalism specified by Marx. Without such empirical verification, confidence in the revolutionary potential of ordinary working men and women rests on idealist premises, and marxian criticism of reformist gradualism is unwarranted and dogmatic.

In chapter one, we fixed the curve of capitalist development according to readily available national

income aggregates, to put the long boom in historical perspective. The curve of capitalist development was then correlated with superstructural trends. It was found that the much maligned 'base-superstructure model' had something going for it. Even without introducing any of the mediating factors essential for a genuinely marxian analysis, remarkable correspondences could be observed between economic activity and such disparate phenomena as suicides, murders, religious affiliation and immigration.

Analysis of economic aggregates revealed that, even during the long boom, the motion of capitalist growth exhibited significant fluctuations; growth occurred in cycles of more and less rapid expansion. This finding led directly to the question of the determinants of economic growth. In chapter two, the answers of the two main schools of conventional economics were identified and linked to the economic policies of political parties in New Zealand.

Although our primary aim has been to assess the viability of marxist economic theory, we are aware that scientific tests involve more than a confrontation between theory and evidence. As Imre Lakatos remarked in a path-breaking essay on scientific methodology, the

history of science "suggests that (1') tests are - at least - three-cornered fights between rival theories and experiment [i.e. evidence] and (2') some of the most interesting experiments result, prima facie, in confirmation rather than falsification" [4]. For a scientific demonstration of the viability of marxist theory, empirical corroboration is not sufficient. It is also necessary to show that this corroboration is superior to that of its rivals.

In conventional economics, there is a division of labour between those who pursue theory and history - and the twain rarely meet. On the one hand, economic history tends simply to document and describe economic events; insofar as the evolution of economic thought is documented and described, it is usually without systematic reference to the economic conjunctures which shaped that thought [5]. On the other hand, economic theorists spend most of their time building mathematical models. The pitfalls of this approach are stated in an amusing way by Wassily Leontief:

> In the presentation of a new model, attention nowadays is usually centred on a step-by-step derivation of its formal properties. But if the author - or at least the referee who recommended the manuscript for publication - is technically competent, such mathematical manipulations, however long and intricate, can even without further checking be accepted as correct. Nevertheless, they are usually

> spelled out at great length. By the time it comes to interpretation of the substantive conclusions, the assumptions on which the model has been based are easily forgotten. But it is precisely the empirical validity of these assumptions on which the usefulness of the whole exercise depends. What is really needed, in most cases, is a very difficult and seldom very neat assessment and verification of these assumptions in terms of the observed facts. Here mathematics cannot help, and because of this, the interest and enthusiasm of the model builder suddenly begins to flag: "if you do not like my set of assumptions, give me another and I will gladly make you another model; have your pick" [6].

Insofar as New Zealand demand-side and supply-side theorists appeal to the historical record, they do so only where it seems to corroborate their own theories. No comprehensive and systematic tests of theories against long stretches of history have been carried out. It was therefore necessary to perform the "very difficult and seldom very neat" task of empirical verification ourselves. The task is difficult because neither school offers a definite method for operationalising its assumptions.

To test the economists' theory that - for better or worse - the prime determinant of economic performance in New Zealand has been state economic management, an attempt was made to construct a curve of the scale of state intervention using conventional economic concepts. No consistent positive or negative

correlation between economic growth and state intervention could be observed. In some periods, strong economic growth coincides with a high degree of interventionism; in others, it coincides with a very low degree of interventionism. It was concluded that the core assumptions of pure economic science were simply not corroborated. Logically the dismal performance of the dismal science could, of course, result either from the falsity of the assumptions or from the inadequacy of our test.

Given the absence of good empirical evidence to support the contentions of either supply-side or demand-side economics, it is difficult to understand from a scientific point of view why supply-siders should rule the roost at present. Demand-siders dominated at the time of the generalised economic recession of 1974-75, and their programme for economic recovery patently failed; the supply-side panaceas for economic recovery have likewise failed to deliver the goods in New Zealand since 1984, as some of the more perceptive analysts recognise. According to Warren Berryman, for example, the New Zealand economy today

> can be summed up in a word - parasitism. The only real growth areas are taxation, bureaucracy and corporate money-shuffling. People and companies making and growing things - adding to the national wealth -

> are on the descendant. On the ascendant are people and companies involved in non-productive areas... Bureaucrats multiply like maggots as the body economic decays... Our economy is becoming something of an epiphenomenon - a lot of smoke and noise hanging up in the air with no productive base down below. (...) When Mr Douglas freed up our economy I believed we'd rocket ahead like Prometheus unbound. I still can't figure out why it hasn't happened - but it hasn't. (...) You can't say Mr Douglas hasn't given capitalism a fair go. (...) Should we blame Rogernomics ? Or do we put it down to a system designed by genius and executed by idiots. I opt for the latter, and remain a Douglas fan - at least till I figure out what went wrong and why [7].

Our test does not exhaust all the more or less subtle auxiliary hypotheses available to supply-side and demand-side theorists. Most economists would consider our test rather crude. There are, after all, endless variations on the demand-side and supply-side themes. Monetarists for example will undoubtedly accuse us of ignoring the decisive role of M3. Our reply to such charges can be brief. We would have incorporated variables such as the money-supply if relevant information had been available for a sufficiently long period. For marxists, too, credit-creation is a powerful factor in the growth process [8]. If surplus-value cannot be realised, then the labour expenditure it represents is socially unnecessary, i.e. wasted. Credit expansion can, for a certain period, release surplus-value that would

otherwise have been wasted, thereby maintaining profit and growth rates. Insofar as credit enabled workers to consume in excess of their current buying power, this could have offset realisation problems stemming from the rising rate of surplus-value during the long boom. It could therefore have contributed to its prolongation - within certain limits. When payment for past purchases reduces effective demand of current wage and salary incomes, the semi-independent role of consumer credit is exhausted. Whether or not this situation was reached before 1973 cannot be determined from available official data. Relevant information on private sector credit (company and household borrowing) is extremely patchy, and our marxist analysis suffers just as much in this regard as do bourgeois analyses [9].

Socialistic reformists, preoccupied with the redistribution of wealth in the interests of fairness, justice and social harmony, are informed by demand-side economics. For them, the long boom refuted marxism insofar as it 'proved' that 'demand management' by the state could override class antagonisms and crises. Yet after rafts of interventionist legislation - some of which meant quite draconian infringements of bourgeois-democratic rights - are collated, consistently positive effects on economic growth cannot be observed. The

onus is now on reformists either (1) to provide auxiliary hypotheses explaining why the outcomes of demand management are such a mixed bag; (2) to conduct their own tests over long periods of history; (3) to concede their commitment to reformism is arbitrary and dogmatic.

The empirical strength of the marxist labour theory of value

In chapter four, we returned to the problem of economic growth, viewed this time through the prism of marxist economic theory. The corpus of marxist theory was reduced to a few basic propositions. This reduction of theoretical complexities was necessary both because available data set severe limits to the range of hypotheses amenable to empirical evaluation, and because it is simply impossible to test basic and secondary factors simultaneously. At which points subsidiary or contingent relations must be introduced into the picture is something which can be known only after the fundamental relations have been ascertained. The necessity for a method of successive approximations is acknowledged by many authors, including Leontief:

> Both the theoretical analyst and the anti-theoretical empiricist must rely on crude verbal generalisation as the only means they can begin to reduce to manageable proportions the seemingly unfathomable variety of the immediately observed facts. The difference

> between the two shows up in what they do next. The theorist sets out to develop generalisations of a more complex and systematic kind, with which he expects first of all to master the obvious qualitative distinctions preserved at the first descriptive stage. He furthermore proceeds to recover and to incorporate into his analytical system successive layers of finer differences which were neglected or suppressed in the original verbal purge [10].

In preparing the empirical material to test the stripped-down marxist theory, a self-imposed restriction was to use only official statistics from readily accessible sources. As these statistics are neither collected nor aggregated to corroborate Marxian theory, it was necessary to re-aggregate them in order to test marxist theory. The operations involved and conventions adopted have been detailed in a systematic, step-by-step fashion in Volume 2, to provide some methodological guidance for other social scientists - marxist or otherwise.

When we began our research, we never anticipated either the amount of work required or the length of the written report. In retrospect, this grave underestimation stemmed mainly from what might be called the 'innocence of pioneers'. As noted in chapter five, little similar research has been done in New Zealand; most discussions concerning the viability of marxist theory do not go beyond formal proofs of the

internal logical coherence of the theoretical system. A literature search yielded only four indigenous attempts at empirical verification. None of them is as ambitious as our own attempt; none, moreover, does anything to improve the reputation of marxian scholarship in New Zealand. Overseas studies similar in intent did not offer useful research models, both because of international differences in statistical sources and because of their lack of analytical rigour. Most of our statistical adjustments were made on the basis of our reading of Marx's Capital, particularly the third volume. To the best of our knowledge, our results offer the most accurate empirical representation of Marx's categories in the Anglo-Saxon literature to date.

These results give ample reason for confidence in the marxist labour theory of value. The remarkably tight 'fit' between theory and history came as a surprise. It prompted a further investigation of discrete laws of motion, to establish whether the results were due to a freak coincidence, or whether good grounds existed for believing they were due to the operation of the marxian laws. Subject to the necessary qualifications, the results are again very positive. Pending comparable research on the part of

bourgeois economists, the marxian approach seems much more reasonable and fruitful; if Lakatos is right about the history of science, it must be concluded that it is more rational to be a marxist than an economist.

A substantive finding of our research is that the long boom is explicable in the terms of marxist theory, i.e. the relations between constant capital, variable capital and surplus-value. Reformist interpretations of the long boom are therefore doubly mistaken: it was not a product of state economic management and it does not falsify marxist theory.

Where is New Zealand Going ?

On the face of it, it might seem paradoxical that a study which focuses mainly on the 1923-70 period should be entitled "Where is New Zealand Going ?". If one thinks through our arguments, however, the paradox vanishes. The reason marxists place great importance on the scientific study of history is that the past determines the present, and the future is the actualisation of some of the possibilities inherent in the present. If a long boom could occur in the 1950's and 1960's, does this not mean that another can be expected in the future ? If so, what are the political

implications for such marxist stock-in-trades as the revolutionary potential of the working class ?

Marxists have traditionally argued that the vast majority of workers learn primarily from direct experience, not from books, television or communist propaganda [11]. If this is true, the demonstrated existence of long waves of capitalist growth has enormous sociological implications which, in our opinion, are seriously underestimated in most social histories of the working class. These long waves mean that every second generation of workers experiences, for most of its working life, prolonged economic growth. Many of the lessons more or less consciously assimilated by the previous generation during depressed conditions will make little sense in the new situation. When the third generation comes of age in a situation of economic crisis, and the lessons of the first generation regain immediate relevance, those lessons are buried in history books and have to be learnt again from scratch through the trials and errors of experience.

If another long boom is a realistic prospect, this has major consequences for the present political practice of marxists. In New Zealand, marxism was

discredited at least in part because communists repeatedly raised the spectre of ever-deepening crises - which did not come to pass. Many sympathisers became disillusioned and demoralised as the boom persisted and the prospect of radical social change receded. Another long boom would probably bury marxism, no matter how many doctoral dissertations were written in its defence.

Leaving aside the problems of distribution, circulation and exchange, two prime causes of the long boom in New Zealand were identified in our analysis. First, when workers - educated for decades in a reformist mould - mounted an attack on bourgeois norms of distribution in 1951, they suffered a defeat of historic proportions. The consequence was an increase in the rate of exploitation, which in turn bolstered the rate of profit and accumulation for a whole historical epoch. Second, a technological revolution in Department I reduced the cost of fixed capital goods and raised the level of productivity in Department II. This also facilitated an increased rate of exploitation. In this respect our findings lend support to Ernest Mandel's theory of late capitalism [12].

This leads to the question, 'is a another long boom of capitalist development a real possibility inherent in the present ?'. If Marxist theory offers the most correct picture of the dynamics of capitalism - and we have given good empirical grounds for believing that it does - the answer has to be negative. For according to this theory, there can be no more generalised technological revolutions within a capitalist framework.

The post-war technological revolution which helped generate the long boom inaugured generalised semi-automated production. The next revolution in technology, i.e. qualitative change in productive technique, therefore implies a transition from semi-automation to full automation. Many of the preconditions for full automation - notably industrial robotics - already exist. But for a technological revolution to trigger a long boom, applications of the new innovations must be widespread, i.e. generalised across many branches and sectors of industry.

It is precisely this requirement which according to Marx cannot be met within the framework of competition, private property and profit-making. Fully automated production is by definition production

without living labour. Without a labour process, the production process creates no new value or surplus-value. Without surplus-value (even abstracting from realisation problems), there are no profits; fully automated plants can return profits only through a transfer of surplus-value generated in plants where productive labour is still employed.

At some point, the spread of the revolutionary technologies must therefore reduce absolutely the mass of surplus-value generated in each production cycle while raising the organic composition, resulting in a falling rate of profit. Constant capital can grow infinitely; but the reduction of variable capital has absolute limits. Hence a point must be reached where the rise in the organic composition, and the consequent fall of the rate of profit, cannot be offset by further increases in the rate of exploitation. It is absolutely impossible to generalise fully-automated machinery within a capitalist framework on this ground alone.

There are, to be sure, other structural problems. The coherence or 'social fabric' of the bourgeois order is ripped up by automation. Workers displaced by machines are not paid wages by capitalists. Lacking means of exchange, they become 'ineffective consumers'.

This contradictory term expresses the social dilemma posed by fully automated capitalist production. Either workers become effective consumers, or they cease to be consumers. In the first case, they must be given an income - but where would it come from ? Ultimately it must come from the 'capitalists'. In order to sell his product, the capitalist would first have to supply means of exchange. As this would be equivalent to giving away the product, why would they bother to produce beyond their own needs ? This problem leads directly to case two, the solution here being the wholesale physical elimination of ineffective consumers, i.e. the unemployed majority of the population.

Given the real possibilities inherent in the contemporary situation, asking the question, 'where is New Zealand going ?' poses an historic choice: socialism or barbarism. In New Zealand today, Rosa Luxemburg's classical formulation has ceased to be simple agitprop material. So long as capitalism persists, there can only be a limited application of fully automated equipment. Our epoch therefore stands under the sign of a permanent crisis of capitalist social relations.

Insofar as longer-term economic upturns do occur, these can result only from defeats of the working class and higher rates of exploitation. That implies regular class confrontations on the scale of '51 every few years. In this light, it is obviously not accidental bosses and their governments all over the world attempt to remove, one by one, all those organisational structures facilitating working-class struggle. If they are successful, the logical next step is the prohibition of independent working-class organisations (parties, trade unions, etc.) and/or the abolition of the universal franchise. Under current conditions, the call from the FOL for an 'accord' with the Government is so unrealistic that it must be called ridiculous.

The end is the beginning

The overall contribution our study makes to the marxist literature is modest but, we think, important. It has demonstrated that it is possible to rework official statistics systematically to approximate marxist categories. It has shown that marxism stands up to a not inconsiderable body of data better than either of its (currently more popular) rivals. Finally, in fixing the curve of capitalist development for a 50-year period, the objective basis for marxian analyses

of superstructural developments has been provided.

In this latter respect, the end of our study is just the beginning. Whether or not our labours prove 'socially necessary' cannot be known a priori. It depends largely on whether it proves useful for further research - our own and that of others [13]. From a marxist point of view, of course, research itself can never be a purely academic exercise. "To understand the causal sequence of events and to find somewhere in the sequence one's own place - that is the first duty of a revolutionary" [14]. The best that could be hoped for is that this study plays some small part in helping people to choose for socialism, consciously, in preference to barbarism.

Many of our results and methods warrant further development, application and refinement. In the first place, a marxian analysis should really be based on allocations of labour-time, not flows of money capital. It proved possible to calculate the total of productive labour hours expended each year, and to calculate the average rate of take-home pay per productive labour hour. It would be a relatively simple operation to convert sums of money tied up in constant capital stocks into labour-hour equivalents. But such a

procedure would already assume the labour theory of value, in which case money-flows and stocks indicate relations between quantities of labour anyhow. We do not think it is necessary to solve the 'transformation problem' to draw valid conclusions from official input-output data [15].

Obviously our specifications for the distinction between productive and non-productive labour could be improved on. Factory production statistics provide separate accounts for each industrial division; it would in principle be possible to make finer distinctions than those between wage and salary earners and other persons engaged. But on our definition of productive labour, variable capital comprises only around 5% of total capital advanced. It is difficult to see that any refinement would radically alter the magnitudes of organic composition obtained.

Why, then, has there been so much controversy over the exact definition of productive labour ? In our opinion, most of the polemics miss the mark. If it is held that all non-productive wages and salaries originate in <u>new</u> value, then any over-estimation of productive labour will necessarily understate the mass of surplus-value, and thereby the rate of exploitation.

But this view is simply inconsistent with the logic of social capital analysed by Marx in the third volume of Capital. The problem of what is and what is not productive labour pales into insignificance next to the problem of estimating total surplus-value. Throughout our study, the term 'observed rate of surplus-value' was used to call attention to the fact that our estimates include only surplus-value realised by manufacturers. Our estimates do not register possible fluctuations in the share of surplus-value appropriated by non-productive sectors.

The treatment of depreciation allowances as reconstituted fixed capital is not entirely satisfactory. As noted in chapter five, depreciation allowances are fixed by Governments in accordance with their counter-cyclical policies. Further work in this area could improve the accuracy of the curve of capitalist development obtained in this study.

Probably the most under-rated problem in drawing up marxian production accounts concerns the rotation of capital. In this study, changes in the turnover-time of fixed capital have not been accounted for. The reason is that no relevant information is available in factory production reports. This is unfortunate because, if

RESULTS & PROSPECTS

Ernest Mandel is right, the accelerated turnover of fixed capital may have played a role in prolonging the boom of the 1950's and 1960's in New Zealand [16]. On the other hand, a considerable effort has been made to estimate circulating and variable capital stocks with accuracy. The results could nevertheless be improved further, particularly for 1949-56.

Price inflation does not significantly affect value-ratios as nominal figures can be used in the calculations. In the case of capital accumulation, however, the appropriate adjustments must be made. This leads to the problem of differential inflation rates of stocks. Either the nominal value of total stocks is reflated using the CPI, or each stock is reflated separately using a product index and then combined to give a total stock figure. Conceptually the marxist measurement of capital in terms of productive labour units makes the CPI the preferred instrument. However, at different points both methods have been used in this study. The occurrence of price inflation introduces the role of money and credit as semi-autonomous factors in a marxian analysis. A limitation of this study is its abstraction from the problems involved in the realisation of value and surplus-value.

RESULTS & PROSPECTS

By way of conclusion, a final reply can be made to those who, having read this study, doubt its intrinsically sociological content. The great advantage of marxism is its ability to integrate all social sciences. We have attempted - necessarily with definite limits - to demonstrate this ability concretely and empirically. The analysis of value relations reveals that the magnitudes of both variable capital and surplus-value are determined in an immediate way through the struggle between classes. Because constant capital is realised surplus-value, its magnitude, too, represents an outcome of class struggle.

But if the magnitudes of C, V and S are all determined by class struggle, the value-ratios C/V, S/V, and S/(C+V) must likewise be so conditioned. That is the very essence of Marx's concept of 'commmodity fetishism': in a society of alienated producers, where relations between people are mediated and expressed by relations between things (money, commodities), value relations simultaneously summarise economic categories and the socio-political relationship of forces between classes of flesh-and-blood people. The one cannot be grasped in isolation from the other. Sociology is economics; economics is sociology.

RESULTS & PROSPECTS

Once the magnitudes of value-relations have been established, light is thrown on the curve of capitalist development. But this leads inevitably to the question of why the ratios assume the proportions they do. For example, lacking access to their own means of production, workers must work for bosses to survive. But why did they work 40 hours and not 50 or 30 hours per week in 1937 ? Again, why does the 40-hour working week remain the norm half a century later ? The computation of value-ratios raises as many questions as it answers; precisely in this sense 'economics' academically defined cannot substitute for sociology, or historiography, or political analysis.

24 October 1986

WHY REVOLUTIONARY MARXISM ?

> Science was for Marx a historically dynamic, revolutionary force. However great the joy with which he welcomed a new discovery in some theoretical science whose practical application perhaps it was as yet quite impossible to envisage, he experienced quite another kind of joy when the discovery involved immediate revolutionary changes in industry, and in historical development in general... For Marx was before all else a revolutionist. His real mission in life was to contribute, in one way or another, to the overthrow of capitalist society and of the state institutions which it had brought into being, to contribute to the liberation of the modern proletariat, which he was the first to make conscious of its own position and its needs, conscious of the conditions of its emancipation. Fighting was his element. And he fought with a passion, a tenacity and a success such as few could rival.
>
> - Engels, in a graveside speech on Karl Marx [1].

> Comrades, we now come to the question of the revolutionary crisis as the basis of our revolutionary activity. But here we must deal with two widely-held errors. On the one hand the bourgeois economists always present this crisis, in the elegant English phrase, as mere 'unrest'. On the other hand however revolutionaries sometimes try to prove that there is absolutely no way out of the crisis. This is a mistake. There are no absolutely hopeless situations.
>
> - Lenin, at the Second Congress of the Communist International [2].

The qualifying term 'revolutionary' suggests that there are non-revolutionary forms of marxism. This suggestion seems however rather curious. After all, Marx was a self-proclaimed revolutionary who considered his ideas to be little more than a scientific approach to the problem of the proletarian revolution. As Engels stated in his speech at Marx's graveside, he was 'before all else a revolutionist'. But if Marx's ideas are inherently revolutionary, why is it necessary to distinguish between 'revolutionary' and other 'marxisms' ?

It seems the first person to have doubts about the term 'Marxist' was Marx himself: 'Tout ce que je sais, c'est que je ne suis pas Marxiste' [3]. With this quip to his son-in-law Lafargue, Marx dissociated himself from what he felt was an erroneous interpretation of his ideas. And so it has been ever since. The terms 'marxism' and 'marxist' are qualified with various prefixes

to indicate dissatisfaction with the way in which other people interpret Marx's theory. Hence 'critical' marxism, 'libertarian' marxism, 'austro-marxism', 'humanistic' marxism, 'cultural' marxism, 'realist marxism', 'marxism-leninism', 'legal' marxism, 'orthodox' marxism, 'classical' marxism, 'revisionist' marxism, 'reformist' marxism, 'marxism-leninism-Mao Ze Dong thought', 'neo-Marxism' and even 'post-Marxian marxism'. This multiplicity of marxisms alone makes a literature review of contributions to marxist theory quite impossible.

The different marxisms of course resulted not merely from different interpretations of 'what Marx really said'. Most are in fact the product of revisions, enrichments and adaptations of Marx's work, deemed necessary to overcome its deficiencies. In other words, they claim to represent what Marx 'would have said' had he known the full implications of his own work or foreseen new situations. Theoretical adaptations - for better or worse - are typically justified on one of two grounds. Either Marx's own theories are claimed to be partly inconsistent. Alternatively, revisions are said to be consistent with Marx and Engels's essential 'spirit', i.e. their scientific attitude in general and their openness to new experience in particular. The argument here is that the revision in question is clearly supported by new but unanticipated facts; therefore Marx -who was after all a scientist - would have endorsed the relevant changes. This has always presented a major problem for marxist scholarship. Many marxologists have in fact been able to use the controversies between different marxisms as material to build their careers.

Our own study tests aspects of Marxist economic, social and political theory. But it is plain that one man's marxism is another man's dogma. In view of the enormous diversity of the marxist tradition, it is necessary to define the marxism being tested - in our case, revolutionary marxism - and explain the choice.

In The Two Marxisms, the sociologist Alvin Gouldner attempted to reduce all strands of marxism to two elementary branches - that of 'deterministic' scientific marxism on the one hand, and that of 'voluntaristic' critical marxism on the other [4]. He considered these two basic currents to be contradictory and incompatible. In our view, Gouldner's approach falsely opposes theory to political practice. Central to revolutionary marxism is the theorem that without a permanent link between revolutionary politics and the science of marxism, Marx's theory can neither be rigorously applied nor develop. Hence revolutionary marxism cannot be located in Gouldner's typology - which underscores the fact that neither the range of marxisms nor the real differences between them can be understood until the role played by this linkage is established.

APPENDIX I

The conception of the epoch

The development of marxist theory took place through a complex interaction of theory and practice. Marx's theory was and is interpreted by marxists in the light of actual political practice. Simultaneously, however, most marxist political practice is itself guided by particular interpretations of marxist theory. The mediating links between the two are 'conceptions of the epoch'. These are perspectives or working hypotheses on the nature and character of the current period of history, its major developmental trends (economic and otherwise), the socio-political relationship of forces, and so on [5].

A conception of the epoch is a composite picture. It is theory-directed, yet also oriented by empirical events and trends. Theory plays an important role in the conception of the epoch by supplying focal points: it specifies which trends are important, and in what respect they are important. But historical events and trends, too, play an important role. They suggest which aspects of the theory warrant special attention at any given time. It is in this way that conceptions of the epoch mediate between marxist theory and political action.

Unlike religious doctrine, which prescribes activities in absolute, universalistic terms ("always/never do X"), doctrinal (axiomatic) statements in the Marxian theoretical system prescribe action in relativistic terms, ("always/never do X in situation Y"). Marxist theory is intrinsically 'open' to history because its prescriptions are conditional (i.e. always include ceteris paribus clauses). As a 'guiding thread' (Marx), 'guide to action' (Lenin) or 'wisdom of practice' (Gramsci), marxist theory always performs its function via an assessment of the concrete situation that obtains, i.e. in the light of some conception of the epoch.

It follows from the mediating role of the conception of the epoch that it lends support both to theory and practice, and enriches either only if practice is guided by theory. As marxist theory is open to modification by empirical conditions, conceptions of the epoch plays a semi-independent role in directing on-going scientific and political practice. But theory also provides a rationale for this practice. Thus political and scientific practice is oriented both by theory and a conception of the epoch.

Given the conditional status of theoretical imperatives, current practice can be either legitimated or challenged by conceptions of the epoch. Thus whenever activists defend different marxisms, different conceptions of the epoch are always crucial premises in the controversy. In any scientific or political debate, marxists defend particular practices using particular interpretations of both the general theory and of the existing empirical reality.

APPENDIX I

The process of rationalising or defending specific courses of action importantly determines how theory is interpreted and the direction of its further development. Here again, conceptions of the epoch exert a certain semi-autonomous influence. Militants often attempt to legitimate practices ruled out by theoretical injunction, with claims to the effect that novel phenomena and trends have been encountered which were not anticipated by the theory. Because the apparently novel circumstances are considered to fall outside the domain of existing theory, a corrective is claimed to be in order: theory must be adapted or extended to take account of the new facts.

But if theory or political practice does not produce the expected result even after the corrective has been incorporated, it is logically always possible to blame (a) inadequate practical implementation, (b) the conception of the epoch, (c) the general theory, or (d) any combination of these. There are only two objective strictures which prevent all this 'negotiation' between theory and practice from slipping into subjectivism, eclecticism, and relativism. These are the real movement of historical events and the formal coherence of theory. But if either of these is to act as a genuine corrective, a continual openness to new historical facts and logical criticism is absolutely crucial.

Marxist dogmatism and dilletantism

The performance of different marxisms in this respect is by no means equal. Academicians of 'official' communism, for example, deflect criticism - both logical and factual - with the "armour of dialectical materialism". No other brand of marxism has been quite so impervious to counter-factual evidence and the elementary rules of consistent thinking as that of the official communists *.

Stalin - the spiritual father of official communism -first argued that socialism in one country was impossible, a little later that it was possible and later still that it had been achieved. Caught in similar circumstances, most ordinary people would concede they had been wrong - at least once. But not Stalin. His typical retort was that such concessions were 'non-proletarian'. To think that formally opposed statements contradicted one another simply indicated a 'bourgeois' inability to think dialectically enough. Stalin's capacity to think 'dialectically' in this sense is legendary [6]. But sometimes even he could not think 'dialectically' enough . History accordingly had to be

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* Their appreciation of marxism as an 'ideology' is quite apt: marxism-leninism ceases to be a scientific arbiter and becomes instead a more or less crude gloss for a bureaucratised political and scientific practice.

straightforwardly falsified to preserve the coherence of the theoretical system [7]. Stalin's approach became the norm and has been followed by the ideologists of official communism ever since.

The more 'liberal' marxisms - sometimes in reaction to the 'closed' nature of the stalinist system - err in exactly the opposite direction. They are 'open' to almost anything, revising and adapting theory on the skimpiest of evidence. Whereas official communists and communist officials appear rigid and dogmatic, the liberals change their minds at the drop of a hat. The attitude of the dilletante is facile and arbitrary. He appears to act on whims, intuitions and journalistic impressions; at any moment he is willing to change direction.

The fact that there are so many different marxisms supports the above interpretation of the relationship between marxist theory and practice. But the dogmatism of the official communists and the arbitrariness of dilletantes cannot be explained purely with reference to subjective factors. This is indicated by the fact that the very same forces (social position and background, practical commitments, conception of theory and/or of the epoch) which propel the defenders of 'actually existing socialism' into dogmatic positions have also produced the theoretical dilettantes. Whereas official communists seldom volunteer admissions that they were mistaken, it is characteristic for dilettantes to concede happily that, up till now, they seldom 'got it right'.

Both are equally driven to revise of marxist theory and categories in order to fit in with their practical commitments and schemas of the world - without reference to any systematic empirical enquiry. From the standpoint of rational theoretical continuity and the development of theory, each is just as dogmatic as the other. The existence of excessively 'closed' and 'open' marxisms stems from the fact that - to borrow Goethe's formula - both think they 'push' when they are 'pulled'. It is this circumstance which lends a certain credibility to Gouldner's voluntarism-determinism polarity. But it simultaneously undermines the assumed polarity, because the most 'deterministic' marxists - the dialectical materialists of official communism - more often than not turn out to be the most 'voluntarist'. For example, stalinists argue that history is the passage of necessary and unavoidable stages, yet also that it is possible to build socialism in isolated and economically backward countries. To resolve Gouldner's contradiction, it is obviously necessary to identify and distinguish the forces which act upon historical agents and the force of their actions.

APPENDIX I

The theory and practice of Karl Marx

The intensity and scope of class struggle is a semi-autonomous factor determining the influx of persons into the socialist movement and, more generally, the labour movement. Not even Marx was immune to the operation of this law - he was drawn to socialism and communism in the context of revolutionary upsurges in the 1840's [8].

In 1846, he and Engels established the Communist Corresponding Committee, "to put German socialists in touch with English and French socialists, to keep foreigners informed of the socialist movements that will develop in Germany and inform the Germans in Germany of the progress of socialism in France and England". In January 1847, Marx joined the League of the Just. In June 1847, a new organisation was formed: the Communist League. Two months later the Brussels Communist Corresponding Committee became a branch of the Communist League and Marx was elected president of the branch [9].

The second congress of the Communist League was held in London in November/December 1847. Marx and Engels were given the task of stating the League's objectives. Engels wrote the first draft, The Principles of Communism, which he and Marx then worked up into the Manifesto of the Communist Party. The publication of the Manifesto coincided with an economic crisis in Britain which spread quickly to Europe. In France, the repercussions of the slump in Britain combined with an agrarian crisis. The result was a sharp fall in the standard of living of the working masses and splits in the ruling classes. In February 1848, Parisian workers launched a successful insurrection [10].

In Germany the economic crisis combined with an already delicate political situation. In 1844, there had been a rebellion of Silesian weavers. This rebellion, together with four years of poor harvests, created the climate for an insurrection in Berlin (March 1847) and uprisings in South-West Germany. The same year saw a civil war in Switzerland [11].

It was in the context of this rising revolutionary tide in Europe that Marx was expelled from Belgium. He shifted to Paris at around the time the Central Committee of the Communist League moved there, and subsequently became its president. In Paris, Marx and Engels wrote a pamphlet, The Demands of The Communist Party in Germany. This document linked the concrete demands made in Germany to the programme of the Communist Manifesto with transitional demands, including the unification of Germany, the abolition of the monarchy in favour of a republic, universal adult suffrage, payment for peoples' representatives, the arming of the population, the nationalisation of feudal estates, as well as mortgages on peasant land, banks, and means of transport [12].

APPENDIX I

Marx left Paris for Germany. Upon expulsion from that country he returned to Paris, only to be informed that his stay in France was conditional on his consent to live in the provinces. In August 1849 he left France for London. By this time, the revolutionary upsurge had been defeated. Marx and Engels took the opportunity of "a time of apparent calm" to elucidate "the period of revolution just experienced, the character of the existing parties, and the social conditions which determine the existence and the struggle of these parties" [13].

This elucidation of social conditions led to an awareness that the 1848 revolutions had been intimately connected to the British economic crisis. The logical conclusion, given the renewed expansion of the major economies, was that the waning of revolutionary activity would probably continue.

A split now developed in the Communist League. One faction thought the taking of power by the working class was still on the immediate agenda. Marx attacked this view. At a session of the Central Committee of the Communist League in September 1850, he declared that

> With this general prosperity, in which the productive forces of bourgeois society develop as luxuriantly as they can within bourgeois relationships, there can be no talk of a real revolution. Such a revolution is only possible in the periods when both these factors, the modern productive forces and the bourgeois forms of production, come into collision with each other [14].

Continuing to define the character of the epoch as revolutionary would mean reducing the preconditions for making revolution to a single subjective factor, i.e. revolutionary will. Against this 'voluntarist' approach, Marx argued the sine qua non for revolution was the objective situation: "A new revolution is possible only in consequence of a new crisis. It is, however, just as certain as this crisis" [15].

This remark echoed a theme in the Manifesto, and reaffirmed fundamental axioms which distinguish the marxist from all other revolutionary socialist currents in the working-class movement: the connection between economic growth and crises on the one hand, and antagonisms between the forces and relations of production on the other; the close tie between revolutionary prospects and the rate of economic growth; and an acute collision of productive forces and social relations as the objective precondition for revolution.

But in addition to this continuity, there was also an obvious change in Marx's thinking at this time. According to the Manifesto, the productive forces had already become "too powerful" for bourgeois property relations: "The conditions of bourgeois society are too narrow to comprise the wealth created by them"

[16]. A year or so later, these same productive forces are said to be developing "as luxuriantly as they can within bourgeois relationships".

In the language of a later period, Marx and Engels "turned left" in 1847 on the basis of their conception of the epoch. This judgement turned out to have been wrong. A re-assessment of economic trends revealed that revolution was predicated on a new crisis. According to the new conception, what lay ahead was a long period of patient party-building, preparing the ground for the new class struggle, as it were, so that in the next crisis the proletariat would be able to seize power [17]. The "left" faction in the Communist League interpreted this change as a "rightist" turn. The difference in perspectives prompted a split, and eventually caused the collapse of the League [18].

For Marx and Engels, the three years 1847-49 were a time of active political work and political analysis. Their writings of this period show brilliant insights into the dynamics of class struggle. Some key strategic and tactical precepts - which were to find application in the October revolution and which form a cornerstone of revolutionary marxism today - were first formulated by Marx in this period (cf. his embryonic notions of the united front, permanent revolution, dual power, and transitional demands [19]. For around twenty years from 1850, Western Europe experienced a long wave of economic growth, interrupted by few brief and generally shallow downturns [20]. For four or so years Marx wrote mostly commentaries on the 1848-50 period and on contemporary political events.

In 1856 a recession broke out in the United States which spread to Europe. It stimulated Marx to return to his studies of political economy, to explain capitalist crises in terms consistent with his materialist conception of history, i.e. the labour theory of society. Through systematic criticism of political economy, he sought to apply the general theory to bourgeois society. What resulted was, of course, the Marxian labour theory of value, i.e. a labour theory of bourgeois society [21].

During a lull in class struggle between 1857 and 1867, Marx penned among others the massive Grundrisse, Contribution to the Critique of Political Economy, Capital Volume One, and drafts for Theories of Surplus-value as well as the second and third volumes of Capital [22]. The theory developed in these works - concerning the origins, laws of motion and conditions for the supersession of bourgeois society - constitutes an essential ingredient of revolutionary marxist theory and practice.

In the wake of the defeats of 1847-49, the West European labour movement was thrown on the defensive in most areas. In the early 1860's, however, it began to revive. The clearest signal of the revival was the founding of the International Working Men's

Association (IWMA) in 1864. Not all the founders of the IWMA were socialists. The initial impetus came from national trade union movements. Proletarian internationalism was generated out of traditional trade-union concerns (in Britain, scab labour was being imported from the continent), European workers' support for the North in the US Civil War and the Polish insurrection of 1863 [23].

The inaugural meeting of the IWMA elected Marx to its Provisional Committee. The committee appointed him to a special commission delegated to draw up provisional rules of association. In two documents, the Inaugural Address and the Provisional Rules, Marx wrote the entire programme for the IWMA. This programme stood somewhere between the concerns of the unionists and the programme of the Communist Manifesto. It reflected the need to unite non-communists, non-socialists and anarchists over a single strategic conception. The conclusions Marx had drawn from the 'economics' were now integrated into a comprehensive explanatory structure. In particular, fluctuations in economic growth were no longer simply viewed as "commercial" (realisation) crises running alongside the general capacity to develop the productive forces [24].

In his inaugural address, Marx noted that economic expansion had increased misery and poverty for working people in Europe. He argued that the economic expansion from 1850 was predicated on a number of factors which the workers' movement needed to understand and counter. These included the forcible destruction of working class organisations, the buying off some sections of the working class to allow for the increased exploitation and oppression of the rest, the export of workers (emigration to the colonies) and the hegemony of Britain in the world market. A consideration of these factors led him to the conclusion that any "fresh development of the productive powers of labour tends to deepen social contrasts and point social antagonisms" [25].

The Rules of Association included five important principles:

(1) "The great end to which every political movement ought to be subordinate as a means" was "the economic emancipation of the working classes" - "the economical subjection of the man of labour to the monopoliser, that is, the sources of life, lies at the bottom of servitude in all its forms, of all social misery, mental degradation, and political dependence";

(2) the International was established "by the working men themselves and for themselves" -the emancipation of the working classes had to be "conquered by the working classes themselves";

(3) in its struggle against the collective power of the possessing classes, workers could "act as a class only by constituting itself a distinct political party, opposed to all the old parties formed by the possessing classes";

(4) working class emancipation required both "solidarity between the manifold divisions of labour in each country" and "a fraternal bond of union between the working classes of different countries". Internationalism was essential because emancipation is "a social problem, embracing all countries in which modern society exists, and depending for its solution on the concurrence, practical and theoretical, of the most advanced countries";

(5) the struggle for the emancipation of the working classes is a struggle for "the abolition of all class rule" [26].

In a nutshell, proletarian emancipation required the building of a working-class political party, independent of all other classes but embracing workers the world over, to carry out a social revolution ending all economic subjugation and class rule. The successful accomplishment of these tasks was however predicated on certain objective conditions. As Lenin later put it, "a revolution can not be 'made', revolutions develop from objectively (i.e. independently of the will of parties and classes) mature crises and turns in history" [27].

Since real revolutions occur only in the context of profound social, economic and political crises, a crucial ingredient is the occurrence of a collision between the productive forces and bourgeois property-relations. Leaving aside the economics, this is the gist of Marx's contribution to working-class revolutionary theory.

Evolutionary and revolutionary marxism

To date, it has proved impossible to unite Marx's theory with a non-revolutionary practice, at least not in the long-run. By denying the conditions for revolution exist, it is certainly possible for a time to combine revolutionary theory with a reformist practice. But over time the level of class struggle fluctuates. If this level goes beyond a certain threshold, reformist political practices demand revisions of the theoretical framework, simply to keep theory consistent with practice.

The integrity of theory and practice is more or less problematic according to the character of the epoch. As our study of the New Zealand case shows, an intimate (though not mechanical) connection exists between the rate of economic growth and the level of class struggle. During periods of sustained economic expansion, revolutionary theory and reformist practice typically do not appear contradictory. Criticism of revolutionary 'principle' indeed typically appears as sectarian obscurantism. But as the conjuncture turns to economic depression, the situation changes.

The intensified struggle over the production and distribution of the national income brings stark discrepancies between

revolutionary phraseology and class-collaboration out in the open. The objective situation forces a political choice: either the struggle for socialism is put on the backburner, the possibility of socialism denied, the meaning of socialism redefined, and reformism abandoned as the means to achieve the socialist goal; or a commitment is made to revolutionary politics, to the building of revolutionary parties, anti-capitalist agitation, etc. Each of these options has been taken up by different currents in the workers' movement at decisive turning-points in the history of capitalist development. The evolution of the Second International offers a clear example of this 'logic of positions'.

The marxism of the German social democracy

Two distinct types of revisions were made by its right wing to adapt Marxist theory to a reformist practice. In 1891, the Erfurt Congress of the German Social Democratic Party ("SDP") had adopted a marxist programme. But this programme was hitched to a reformist practice known as the alte bewahrte Taktik ("tried and proven tactics") [28].

After Engels's death in 1895, Eduard Bernstein created the biggest controversy in the history of marxism when he tried to show empirically that reformist practices were more rational than the revolutionary programme (theory). He argued that Marx's theory was inadequate in certain crucial respects: the relationship between economy and society was inadequately theorised; the theory of value and surplus-value was inconsistent; moreover, Marx's political-economic analysis as a whole was faulty since the trends which he, Bernstein, deduced from it did not measure up to the real, observable trends [29].

Bernstein designed various tests for Marx's hypothesis of the concentration and centralisation of capital. Official statistics 'proved' the hypothesis false. The thesis of the growing concentration of industry likewise fell down since, in Germany, farriers and wheelwrights still tended to operate in small shops and firms. Marx's prediction of the ever-greater centralisation of capital was disconfirmed because joint-stock companies and 'the increasing troops of shareholders' had decentralised capital ownership [30].

Thus Bernstein wound up denying that the structure of capitalism was shot through with contradictions, and that its laws of motion necessarily engendered periodic crises. Indeed he appealed to Kant in an attempt to show that mind-independent contradictions were an Hegelian fiction. By (crudely) misapplying Marx's theory to the data and philosophical logic, he rationalised revisions of the framework supporting a gradual, non-violent transition to socialism through cumulative reforms (gains bought through collaboration with the "progressive" bourgeoisie) - all

under the slogan "the movement is everything, the goal is nothing" [31] *.

Bernstein's insistence on reformist parliamentarism as the means to achieve the socialist goal blinded him to the opportunities for socialism that appeared in 1905 and 1917, the inter-imperialist war of 1914-18, the revolutionary crises in Germany in 1919 and 1921 and so on. It also blinded him to the impossibility of uniting the vast majority of workers over a reformist programme under conditions where class collaboration could only mean concessions by workers to the bosses. In the context of the prolonged economic crisis of the 1920's and 30's and the socio-political crises following in its wake, this blindness culminated in the liquidation of the social democracy for a decade [36].

Bernstein's ideas formed the basis for an influential tendency in the international socialist movement from the turn of the 20th century onwards. In due course it became the official doctrine of the Second International. That is not to say that it did not meet with major opposition. Revisionism had been roundly condemned at party congresses in 1899 and 1901 after criticism from the main leaders of the party - Kautsky, Bebel and Adler (Kautsky later made formal amends with Bernstein [37]).

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* Latter-day marxists have often caricatured Bernstein as the 'arch-villain' who sought to 'mislead' the revolutionary movement. It is true that Bernstein abandoned marxist revolutionism for reformism. But in his defence it must be said that he, at least, made important attempts to revise Marxism on the basis of an open, principled and scientific discussion. This approach stands in sharp contrast to Bernstein's stalinist critics, who revise Marxist theory to fit in with political practices but present their revisions as the very purest orthodoxy [32]. The contrast between Bernsteinian and stalinist revisionism should not be exaggerated however. Common to both is a refusal to 'say what is', i.e. to analyse and present the facts in an objective way. The rational kernel of Bernstein's revisionism was the significant real gains in working and living conditions, political freedoms and trade union rights won through reform over two decades of semi-permanent economic growth (1894-1914) [33]. The irrationality of Bersteinian reformism lay in its refusal to accept the inapplicability of the strategy during long periods of economic depression (it is noteworthy that Bernstein continued to argue for the 'tried and tested tactics' up to his death in 1932 [34]). From 1928 the stalinists prophesied the collapse of capitalism in the foreseeable future. The long depression and more especially the great slump of 1930-33 gave stalinism its rational kernel; its irrationality lay in its inability to come to grips with the long economic boom following the Second World War [35].

APPENDIX I

The marxism of Lenin

Already in 1894, the young Lenin polemicised against non-revolutionary, 'legal' marxism:

> Try to compare with Marx's 'critical and revolutionary' theory the colourless trash which 'our well-known' N. K. Mikhailovsky, in his 'criticism', expounded and which he did battle with, and you will be astonished that there can really be people who regard themselves as 'ideologists of the working people', and confine themselves ... to that 'worn-out coin' into which our publicists transform the Marxist theory by obliterating everything that is vital in it [38].

By 1901 Lenin freely used the term 'revolutionary marxism' to distinguish his position from what he saw as

> attempts to to introduce opportunism into the class struggle of the proletariat - attempts that find expression in so-called Economism, Bernsteinism, Millerandism, etc. [39].

He rounded out the distinction in What Is To Be Done (1902), contrasting two tendencies within 'the international Social-Democracy' - the revolutionary tendency and the reformist tendency:

> Social democracy must change from a party of social revolution into a democratic party of social reforms. Bernstein has surrounded this political demand with a battery of well-attuned 'new' arguments and reasonings. Denied was the possibility of putting socialism on a scientific basis and of demonstrating its necessity and inevitability from the point of view of the materialist conception of history. Denied was the fact of growing impoverishment, the process of proletarisation, and the intensification of capitalist contradictions; the very concept, 'ultimate aim' was declared to be unsound, and the idea of the dictatorship of the proletariat was completely rejected. Denied was the antithesis in principle between liberalism and socialism. Denied was the theory of class struggle on the alleged grounds that it could not be applied to a strictly democratic society governed according to the will of the majority, etc. [40].

The marxism of Kautsky

Revolutionary theory was marshalled by left-wing social democrats within the German social democracy itself to refute

Bernstein's revisions. But the day-to-day reformist practices of the party continued. This meant that the struggle against revisionism actually did not resolve the inconsistency between revolutionary theory and reformist practices. To the contrary, it only accentuated the antagonism between them, and highlighted the need to resolve the contradiction [41].

The drift towards imperialist world war in the first and second decade of the twentieth century intensified the antagonism. Sooner or later reformist practice had to be given a more substantive theoretical underpinning. Kautsky, who had drafted the Party's marxist programme at Erfurt, attempted to justify the status quo of theory and practice by drawing a distinction between 'revolutionary' and 'insurrectionary' goals. He appealed to the authority of Marx himself, to the 'right turn' in the Communist League and his interpretation of Marx's economic theory, in conjunction with an argument about the preconditions for real revolution.

On Kautsky's reading, Marx's economics dispelled the 'myth' that the preconditions for 'real revolution' exist in periodic crises, i.e. whenever the forces and relations of production come into collision. Instead the productive forces would continue to develop, albeit unevenly, to some distant point when, in a single cataclysmic and final event, bourgeois relations of production would collapse.

The belief that Marx had uncovered proof of inevitable collapse of the capitalist economic system was quite widespread in the German social democratic party. The economic mechanisms propelling capitalism to final collapse were predicted in its paper by Cunow already in 1898. Rosa Luxemburg and Hilferding shared the basic perspective [42].

Both Hilferding and Kautsky thought the imperialist war would give bourgeois social relations a new lease of life. They agreed that the War was a struggle between imperialists over access to markets. British hegemony, which facilitated the expansion of 1850-70 would be broken. Then, according to Kautsky's forecast, would come an epoch of 'ultra-imperialism': the imperialist powers would renounce armed conflict, and the world market would be redistributed peacefully (i.e. cartel fashion) amongst themselves [43]. The novelty of the position lay in the conclusions drawn with respect to the prospects of the international capitalist economy and the strategies for building socialism.

Kautsky discovered in Engels's writings two alternative strategies for building socialism. The first was one of 'direct assault', i.e. the overthrow of capitalism through a proletarian insurrection. But a direct assault risked the entire 'political capital' of the party - the accumulation of party members and the gains won through reforms - and, in the light of 'ultra-

imperialist' economic expansion, could quite likely turn out to be a fatal adventure. The alternative was the strategy of 'attrition'. According to this strategy, the forces and weight of the workers' movement are deployed in "encircling the enemy fortress, undermining it, compelling the enemy to make repeated and costly sorties resulting in defeats", to "provoke a gradual erosion of his will to win... to fight" [44].

The workers' movement would continually need to weigh up the relative merits of both strategies and opt for one of them. But on what grounds could the momentous strategic decision be made ? Kautsky argued the strategy of direct assault could be justified if, and only if, victory was guaranteed in advance. But such a guarantee existed only in the event of the final collapse of the capitalist economy, when bourgeois social relations were already permanently 'rent asunder' (in Marx's phrase). The conclusion was inescapable: a revolution was permissible and justifiable only when it was unnecessary to make one. It formed an apparently secure marxist foundation for a gradual transition to socialism through the ballot-box.

For all that, Kautsky's 'non-insurrectionary marxism' required a redefinition of what it meant to be 'revolutionary'. Within his schema, a party was revolutionary if it was an independent workers' party, which opposed the parties of other classes. But this new definition was not only in essence non-revolutionary. It was also a major departure from Marx's own theses spelled out in the programme of the IWMA.

The war split the SDP. The left wing (championed by Luxemburg and Mehring) argued that the war was an inevitable product of capitalist development and that it was time to go over to mass revolutionary struggle, i.e. to implement the marxist programme of the Second International. The right wing (led by Cunow and others) moved to support the national bourgeoisie in their imperialist aims. Kautsky, presiding over the so-called marxist Centre, tried to find a space between the two wings, arguing both against war (for pacificism) and against revolutionary mass opposition.

The German social democracy was the 'jewel' of the International. On the one hand, the SDP had built by far the largest mass base of all the parties in the International, and, on the other, it apparently stood in direct line of descent from Marx and Engels. Yet on August 4, 1914, a majority of SDP deputies to the Reichstag voted for the military budget supporting their governments, i.e., their bourgeoisie's, war initiative *.

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* 30 deputies voted for the war credits; 15 voted against. The Centre elected to support the right, defeating the left which then submitted to the majority decision of the deputies. Most social democratic parties in other countries followed suit [45].

This vote prompted a fraction of the Left to split from the SDP, which in due course formed the Spartacus League (Spartakusbund). Its programme demanded a return to the official line of the Second International [46]. When the Centre failed to contain the split, Hilferding and Kautsky left the SDP for a centrist formation, Independent Social Democratic Party.

The SDP's break with the Communist Manifesto's proclamation that 'workers have no country' was undeniable. It prompted Lenin to critically review the practice of the Second International. The possibility of a major war was not at all unexpected in the Second International. In 1907 and 1912, resolutions had been drafted and endorsed by Congresses of the Bureau of the International, stipulating the duty of socialists in the event of an imperialist war: social-democrats should "exert every effort to prevent the outbreak of war". If, despite such effort, war should eventuate they should intervene "in favour of its speedy termination" and "utilize the economic and political crisis caused by the war to rouse the peoples and thereby hasten the abolition of the capitalist class". [47] How could the volte-face be explained ? Lenin concluded that

> The opportunists had long been preparing to wreck the Second International by denying the socialist revolution and substituting bourgeois reformism in its stead, by rejecting the class struggle with its inevitable conversion at certain moments into civil war, and by preaching class collaboration; by preaching bourgeois chauvinism under the guise of patriotism and the defence of the fatherland... [48].

In November 1914, Lenin declared that

> The Second International is dead, overcome by opportunism. Down with opportunism, and long live the Third International, purged not only of "turncoats" (as Golos wishes), but of opportunism as well. [49].

After the war, the SDP was re-united and Kautsky and Hilferding became government ministers. In time, their characterisation of the post-war epoch proved false and their centrist practice disastrous. The first major imperialist war was followed by a long and deep depression. Not only did the social democrats fail to take advantage of the favourable relationship of forces. When, in 1918-19, a whole series of mass revolts took place, the social democratic government ordered the Freikorps to put down proletarian insurrection [50].

Despite the centrist caution, the SDP of course lost its 'capital' when the national socialists took power in 1933 -

demonstrating that while there is an element of risk in building socialism via the strategy of assault (insurrection), the strategy of attrition is not at all risk-free. Indeed, failure to attempt the socialist revolution can and has had more, and not less, disastrous consequences than the pursuit of a revolutionary strategy (cf. most recently the tragic fate of the parliamentary-reformist experiment in Chile *).

The marxism of the Communist International

Not until 1918-19, i.e. after the victory of October, did sufficient forces break with the 'dead' organisation and side with the Zimmerwaldists to enable the founding of the Third (Communist) International. Imperialism was also central to the ideas of the founders of the Third International. Lenin defined imperialism as the epoch of capitalist parasitism and decay. That is, from the standpoint of world history, bourgeois social relations had become a permanent fetter on the development of the productive forces. The conception of the epoch elaborated by the Comintern was one of intensified inter-imperialist rivalry, wars, social convulsions, political upheavals and revolution.

As Perry Anderson points out, the 'olympian universalism' of Marx and Engels came about, at least in part, because their practice was for long periods not integrated into the humdrum of day-to-day politics of a national party. The centrism of the leaders of the Second International grew out of the organisation of a mass party and the gains won through reform within bourgeois democracy in a period of economic growth. Most of the Comintern's leaders came from the East. There, marxism was not legally incorporated into existing political structures. Consequently there was no basis for any illusions that the dictatorship of the bourgeoisie had been transformed into a permanent open democracy [51].

After the October revolution the term 'revolutionary marxism' became redundant for a whole era. Communism and bolshevism became, with a few notable exceptions (e.g. the Bordigistas and the council communism of Pannekoek, Gorter, Korsch, and Mattick), synonymous with revolutionary marxism. Like any magnet, the Russian revolution had a positive pole and a negative pole. The majority of revolutionary marxists were attracted to the revolution

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* Reformists, who 'know' all the difficulties posed by insurrection a priori, seem remarkably incompetent to learn from any concrete historical experience which falsifies their strategy.

and the Comintern, whereas the effect of the revolution on the majority of socialists (social-democrats) was negative. It repelled and horrified the latter, strengthening their reformist tendencies and motivating a wave of outcries against proletarian 'violence' [52].

The idea that capitalism was degenerating led logically to the conclusion that the objective conditions for a socialist transformation of society already existed; the key tasks for revolutionaries now lay in the sphere of social consciousness. The 'class in itself' would not automatically become a 'class for itself' even in the context of capitalist crises and decay [53].

The deepening structural contradiction between the forces and relations of production (the decay of capitalism) would periodically create pre-revolutionary situations, some of which would grow over into revolutionary crises in which the lower classes 'do not want to live in the same old way' and the upper classes are 'unable to live in the old way' [54]. Since the objective conditions existed then, from the standpoint of the revolution, the only thing that could prevent a deep social crisis from developing into a socialist transformation would be a crisis of the subjective factor, in the final analysis, of the political will or 'daring' to carry through the socialist revolution.

If class consciousness could be raised, a socialist overturn was on the agenda. But if the workers' movement remained stuck at the level of trade-union consciousness then, sooner or later, the labour movement would be defeated by the bosses. It was in this sense that Lenin affirmed that there were 'no absolutely hopeless situations' for bosses. Social and economic crises breed 'unconscious marxism' - a more or less spontaneous rejection of the status quo. For the transition to socialism, however, at least some pre-revolutionary situations would need to be developed into revolutionary situations; the unconscious marxism of workers had to pass over into conscious (i.e. revolutionary) marxism.

For the Comintern, the task was consequently to build revolutionary parties - workers' political organisations opposed to all parties formed by the possessing classes. The central function of the sections of the Communist International was to assist the raising of class consciousness, to help workers towards the conscious recognition that self-emancipation means economic emancipation and the abolition of all class rule.

The Comintern's overall conception of the epoch was that, in the longer term, economic development would be determined entirely by class struggle. This view signified a categorical rejection Kautsky's notion that the logic to bourgeois social relations of production would lead inevitably to a catastrophic final collapse of capitalism. A defeat of the working class could result in a capitalist recovery for a certain period. In and of itself,

however, such a defeat would not automatically generate a period of rapid economic expansion.

Trotsky formulated the conditions for bourgeois economic recovery as follows:

> [If] the working class fails to rise in revolutionary struggle, but allows the bourgeoisie to rule the world's destiny for a long number of years, say, two or three decades, then assuredly some sort of new equilibrium will be established. Millions of European workers will die from unemployment and malnutrition. The United States will be compelled to reorient itself on the world market, reconvert its industry, and suffer curtailment for a considerable period" [55].

One imperialist power had to assert its hegemony on the world market (the USA was suggested, the war between the USA and Japan in the Pacific was predicted, and so on). In line with the conception of the epoch (which posed the choice of socialism or barbarism), the "two or three decades" would of course be under the sign of intensified inter-imperialist rivalry, wars, social convulsions, and political upheavals, and so on. In hindsight, the accuracy of the forecasts made is remarkable. To be sure, there was an element of prophesy in the forecasts. But the prophetic content was itself based on scientific analysis. No other social-scientific predictions as wide-ranging as those made in the early years of the Comintern have been so completely fulfilled.

At the same time, not all members of the Comintern's leading bodies took heed of Lenin's warning that there were no 'absolutely hopeless situations' for bosses. The term 'revolutionary marxism', as distinct from '(official) communism' resurfaced in the late 1920's in the context of the faction fight between the supporters of Stalin and Trotsky in the international communist movement.

Polemicising against Bersteinism in 1906, Lenin declared that

> he is no Marxist who takes a theory that soberly states the objective situation and distorts it into a justification of the existing order and even goes to the length of trying to adapt himself as quickly as possible to every decline in the revolution, to discard 'revolutionary illusions' as quickly as possible, and turn to 'realistic' tinkering [56].

After 1923, Trotsky and the bolshevik-leninist opposition (the 'left opposition') considered that while the ruling Stalinist faction "soberly stated the objective situation" (the overall ebbing of the revolutionary tide from the mid-1920's) it had

"distorted it into a justification of the existing order". The stalinists had "discarded revolutionary illusions" about the prospects of the world revolution, and had turned to "the 'realistic' tinkering" of socialism in one country.

The defeat of the revolutionary upsurges in Europe and the consequent isolation of the first workers' state made the Communist International increasingly an instrument of Soviet foreign policy and a lever to bargain with the imperialist powers. At a programmatic level, this trend meant a gradual regression to menshevik and social-democratic concepts: the notion of strategic 'blocs' with the 'progressive' bourgeoisie (initially in respect to China) and the theory of revolution 'by stages'. In backward and even advanced countries, the march of the revolution was viewed by the stalinised Comintern as proceeding first through a 'national democratic stage', in which the key demands should be for 'national independence' and 'the extension of democratic rights'. Only after this stage was attained could the struggle for socialism be attempted. This programmatic regression eventually made the Comintern an obstacle for the further progress of the world revolutionary process, and even a counter-revolutionary force (cf. the case of the Spanish revolution in 1935-36). The Comintern was officially dissolved in 1943 as a gesture of goodwill to the imperialist 'Allies' [57].

The marxism of stalinism

From the beginning, stalinism was unquestionably a counter-revolutionary force around the world. It drew its life-blood from the world revolution but was ineluctably compelled to contain it in the interests of 'peaceful co-existence' with the imperialist powers. Within the Soviet Union, too, it became a movement of reaction. Through the forced collectivisation of agriculture, the economic expropriation of the peasantry, the liquidation of the kulaks, and the socio-political expropriation and atomisation of the workers, Stakhanovism and the Gulag, it was able to realise unprecedented economic growth for a whole period. But accelerated growth could only continue so long as it corresponded to the special interests of the bureaucracy.

After the accession of the Stalin faction, the equation "communism = revolutionary marxism" could no longer be maintained except at the level of political rhetoric. The clearest indication of the retreat from revolutionary marxism was the wholesale liquidation (through purges, show-trials and executions, gangsterism and assassinations) of nearly all of Lenin's comrades-in-arms . All the most able Marxist thinkers of the period - including Kamenev, Rakovsky, Trotsky, Preobrazhensky, Riazanov, Bukharin, and Rubin - were sacrificed to provide cover for the retreat to menshevism [58].

The construction of the myth of 'marxism-leninism' as 'the

marxism of the imperialist epoch' (elaborated and modified by Bukharin at Stalin's command) signified formal acknowledgement of a new tradition. The new orthodoxy became the stock-in-trade of official communist parties around the world. Stalinist practice required a major reappraisal of the conception of the epoch. It came to be believed that marxist theory ruled out the possibility that the capitalist economy could recover from the crisis of the 1930's [59].

As noted, Marx himself argued the working class could make real gains in standards of living during periods of economic growth, but not in long periods of economic decline. For a long time official communists argued that the manifest gains and economic growth in the 1950's and 60's were ephemeral. All kinds of sophistry was engaged in to prove this thesis. What looked like a gain (say, more bread) was said to be 'in essence' a loss (the calorie-content per loaf fell faster than the increase in loaves) [60]. In the longer term, of course, it proved impossible to deny that the range, quality and quantity of durable goods consumed by working people had expanded. Where now to lay the blame for the error ?

The problem was that capitalist economies grew when the stalinist interpretation of Marxist theory ruled out growth. One rather obvious place to look, especially in view of Lenin's warning, was at this interpretation. But this option was foreclosed by the theory and practice of organisational and ideological monolithism, according to which 'the party is always right'. If both Marxist theory and its 'marxist-leninist' interpretation could not be challenged, there was only one other place to lay the blame: something must have changed in the structure of the economy. Hence the 'discovery' of the theory of state monopoly capitalism (stamocap theory).

It is not at all easy to assess the theoretical status of this innovation. On the one hand, the relationship between stamocap and classical marxist theory has never been clearly stated. On the other hand, there are countless variations on the general theme, which is that capitalism at some point reached a new stage, sitting atop - as it were - the preceding stage of monopoly capitalism.

According to stamocap theories, capitalism from a certain moment in its historical development needed the semi-permanent state intervention to overcome the general and growing difficulties encountered in the valorisation of capital. The monopolies 'fuse' with the state, so that the state intervenes in the interests of monopoly. This fusion and state intervention is said to facilitate the appropriation of surplus-profits by monopoly capital and solve the problem of realising surplus-value.

In the new stage of capitalist development, a new 'revolutionary' tactic of 'strategic blocs' was called for. The

working class should unite with its 'natural' allies (from time to time, these might include the 'progressive bourgeoisie', the 'small and medium-sized capitalists', the middle classes, working farmers, peasants, and more generally 'peace-loving forces' and 'progressive elements') in a popular national-democratic front to 'fight monopoly'. In this way, stamocap theory attempted both to save marxist-leninist theory from falsification, and to legitimate the reformist practice of the official communist parties.

There are, however, a number of problems in the stamocap solution, which have bedevilled official communists for decades. The fact is that it contradicts fundamental theses of marxism about the state, the laws of motion of capitalist development, and the irreconcilable class-interests of workers and bosses. For the purposes of our study, the major problem posed by stamocap theory is that the mechanisms by which state intervention resolved the realisation problem and enabled crisis-free capitalist development for a whole period are nowhere specified in terms of the production of value and surplus-value. Insofar as the surplus-profits result from transfers of surplus-value by the state from the competitive to the monopoly sector, the realisation problem is not resolved at all. But if the surplus-profits do not result from such transfers, what is their source ?

Without clear answers to these questions, the stamocap thesis simply cannot be evaluated in the framework of Marx's theory of capitalism. In addition, stamocap theory implies that the state-monopoly fusion enables monopolies more or less permanently to avoid competition and, by implication, transcend the law of value. This notion is highly unorthodox since, within the framework of Marx's theory, inter-capitalist competition is an intrinsic structural feature of capitalism. Irrespective of what position one takes on the issue, state-monopoly capitalism is only possible in societies in which the dominant mode of production is non-capitalist (stamocap theorists do not draw this conclusion).

In support of stamocap theory, it is pointed out that, since World War I, the state has frequently intervened into economic affairs. As this interventionism corresponded to economic recovery, it is inferred that the recovery must have resulted from state economic management. Yet the ideologists of 'actually existing socialism', who propound the 'theoretical problemshift' ignore that this superstructural 'overdetermination' of the curve of capitalist development violates the ABC of historical materialism.

In the light of these problems, it is difficult to see stamocap theory as anything other than an ad hoc stratagem to adapt marxism to the requirements of a particular political practice, namely the defence of bureaucratic social organisation and privileges, leading to the pursuit of 'peaceful co-existence' between 'actually existing socialism' and capitalism. In that case, stamocap theory signals a degenerative, and not a progressive

theoryshift, debasing rather than developing marxism.

The marxism of the neo-marxists

The neo-ricardians (who also like to style themselves as marxists), draw conclusions from the evidence similar to those of the official communists. But the neo-Ricardians push the argument to its logical conclusion. They argue that because state intervention can under capitalism override the law of value, Marx's theory of value must be false. Neo-Ricardians typically find the 'essence' of marxism in its scientificity in general and selected 'macro-economic insights' in particular. In the name of preserving this essence, they dump the theoretical 'ballast' of Capital, contradicted as it (apparently) is by the 'hard facts' [61].

A pseudo-scientific manoeuvre almost as crude as that of the Stalinists operates here. First, the neo-ricardian rejection of the marxist labour theory of value is not the result of systematic, rigorous empirical analysis using Marx's economic categories. Neo-ricardians simply infer from the experience of the long boom that the labour theory of value is false. Second, they ignore evidence suggesting that the state may not always be able to intervene to produce economic growth. The depression of the world economy since around 1970 is accordingly 'accounted' for in terms of ill-conceived state economic management.

Like the stalinists before them, the neo-ricardians are trapped in an intellectual labyrinth (amalgams of theory, practice and conceptions of the epoch) of their own making. The only way out is to make a rigorous empirical analysis to determine just which historical periods can be explained in terms consistent with Marx's theory and which, if any, cannot.

In our opinion, the only 'form of marxism' which has done this to any significant degree is the tradition of revolutionary marxism, exemplified by Engels, Lenin, Trotsky, Luxemburg and Mandel. Every other form has eventually located the cause of the failure of socialist consciousness to 'seize hold' of the masses, and the subsequent revival of capitalism after World War Two, in the sphere of ideology. Put simply, workers had the wrong (i.e. bourgeois and reformist) ideas in their heads and therefore would not fight for socialism; these ideas were systematically drummed into them by capitalist 'society', 'bourgeois ideological hegemony', ideological state apparatuses, etc.

The idealism of non-revolutionary marxism

This line of argument was taken up by the Frankfurt School, the Maoists and Gramscian Eurocommunists. It is usually backed with a pile of quotations from Marx, Engels and Lenin. Did not Marx speak about how the bourgeoisie monopolised the means of communication, how the ideas of the ruling class were the ruling

ideas ? Did not Engels complain that the English working class was becoming 'bourgeois' ? Did not Lenin constantly attack 'economistic deviations', and did he not stress the leading role of the vanguard party in preparing workers for the socialist revolution ?

Once the Marxist rhetoric is stripped away, however, all that is left is a thinly disguised idealism. The persistence of bourgeois society is ultimately explained by pointing to wrong ideas and sentiments of the working masses. This involves a slippage from the premise that the 'ruling ideas' rule because they are the ideas of the ruling class, to the notion that the ruling class rules because its ideas rule. What remains unexplained here is the process by which these ideas get into the heads of workers in the first place. Obscure references to 'interpellated ideological subjects', 'ideological structures without agents', 'ideological hegemony', and 'ideological state apparatuses' owe much more to Hegel than to Marx.

The practical-political theory of working-class emancipation following from this interpretation of history is analogous to the theory of scientific progress propounded by Kuhn. Progress is a succession of arbitrary changes in allegiance to theoretical frameworks (shifts between incommensurable paradigms). The party is seen to function as an 'agent' (or triggering device) which can bring about mass 'Gestalt shifts', by which 'normal society' is catapulted into socialist revolution. Thus it becomes a question of establishing 'ideological and cultural hegemony'.

If, however, ideology is so pervasive and powerful, it is extremely difficult to understand how party members could - by themselves and voluntarily - ever hope to break free from bourgeois socialisation and brainwashing by the bourgeois ideological apparatuses in the first place. In the 'last instance', one is therefore left with the old stalinist concept of the monolithic party which, by virtue of its monopoly of the marxism-leninist beacon, is able to penetrate the thick fog of bourgeois ideology. (It is here that Gouldner's typology makes some sense).

The balance-sheet of official communism

Through many twists and turns, elaborations and embellishments, stalinism reached its crisis point after the Second World War. The victory of the Yugoslavian, Chinese, Albanian, Cuban, Vietnamese and Nicaraguan revolutions gave rise to the spectre of many 'socialisms in one country'. It led inevitably to a struggle for hegemony within the official communist movement, highlighted by the fall-out of Tito and Stalin, the East German crisis of 1953, the Hungarian events of 1956, Krushchev's denunciation of the 'crimes of Stalin', the Sino-Soviet split, the Russo-Albanian split, the invasion of Czechoslovakia in 1968, Soviet and Chinese intervention in the African continent, the Vietnam war, the horrors of Kampuchea, the invasion of Afghanistan,

and the Polish uprising of 1980-81.

State planning was the necessary condition for rapid growth, but bureaucratically centralised planning (as opposed to planning by the associations of workers advocated by Marx and Lenin) in the long run became a fetter on growth. At a certain point, the special material interests of the bureaucracy no longer coincided with any rational allocation of resources (balanced economic growth). To preserve its privileges, the bureaucracy was forced to extend the range of social inequalities, reintroduce market mechanisms and intensify political repression (cf. the recent experience of Poland).

Official communism thereby loses any semblance of 'progressiveness' and becomes an absolute political barrier to socialism across the board. 'Actually existing socialism', 'state socialism', call it what you will - exerts an indirect counter-revolutionary influence. In the West, where conditions cry out for proletarian revolution and where the infrastructure for a rapid socialist reconstruction of society exists, the development of the necessary subjective conditions is decisively obstructed by the 'model of actually existing socialism'.

Is it any wonder that the vast majority of official communist parties in Western Europe do not only disown their own legacy, but have also successively abandoned in practice and in theory the role of the vanguard party, the dictatorship of the proletariat, socialist revolution, raising the level of working class struggle, the marxist labour theory of value and of capitalist crises, the defence of workers against the austerity offensive of the bosses and the bourgeois state, and finally the Marxist theory of the state ? Today's 'Eurocommunists' not only deny to substance of Lenin's contribution to marxism, but marxism tout court.

Conclusion

The impact of stalinism is now proving reactionary in every respect. Thus the evolution of stalinist theory and practice historically substantiates the sharp distinction drawn between stalinism ('marxism-leninism") and revolutionary marxism. What appeared in the beginning as an obscure theoretical difference between Stalin and Trotsky about the possibility of 'socialism in one country' has turned out to be the fundamental choice - which is not just academic but also political and world-historical - between 'actually existing socialism' and the possibility of socialism in the classical marxist sense. The official communist bureaucracy is no longer a relative but an absolute brake on socialist construction everywhere. This fact robs stalinism in all its variants of any shred of historical justification its apologists may have been able to adduce in the past.

Insisting on the term 'revolutionary marxism' in our time

therefore signifies neither an ad hoc manoeuvre to save marxism in the light of the actuality of 'existing socialism' nor some sectarian point of honour aimed at preserving the internal consistency of ossified dogmas. If Marxism is indeed 'in its essence critical and revolutionary' then any objective, honest and independently critical analysis must reveal that Stalinism is antithetical to marxism, quite irrespective of one's judgement of marxism's contribution to human progress.

In good revolutionary marxist tradition, credit should be given where credit is due. The least one can say for Stalin's impact on marxism is that it was innovative. 'Marxism-leninism' marked a clear departure from marxism as such. Just as Lenin distinguished his own position from what was almost universally regarded as orthodox marxism by means of the adjective 'revolutionary', we must for the sake of clarity distinguish our revolutionary marxism from the 'ideology' of 'marxism-leninism'. That implies, in a certain sense, a concession to Lenin's epigones. But it is better to save the content of Lenin's marxism and delete his name than it is to enshrine his name and falsify his contribution.

In the final analysis, the only way to assess all the different currents and tendencies in the labour movement is to ask how far they have advanced humanity to the socialist goal. All the theories and practices are merely means to achieve this goal and subordinate to it. Socialism itself is, of course, only a means to a further end. The commitment to achieving its realisation is in the final analysis justifiable only on the ground that socialism makes it possible to "increase the power of humanity over nature and abolish the power of one person over another" [62]. That is to say, marxists want to build socialism so that people can begin to solve some fundamental problems of human existence.

A socialist society has not yet been achieved anywhere. In this sense history has not yet given the final verdict as to whether the goal of socialism is a real possibility or what means should be employed to reach it. There is as yet no final answer to the question of whether or not it is rational to be a marxist (and, assuming that it is, what sort of marxist). Until the historical verdict is in, things have to be decided on a less sure footing. The provisional vindication revolutionary marxists point to is that they are the only tendency in the socialist labour movement that has been able analyse history in a scientific, materialist and critical way, using categories consistent with their tradition - and find its basic propositions substantially confirmed.

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WHERE IS NEW ZEALAND GOING ?

Geof Pearce

VOLUME 2

DATA BASE:

STATISTICAL AND

METHODOLOGICAL

APPENDICES

University of Canterbury

1986

CONTENTS

CONTENTS

CONTENTS

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

LIST OF TABLES

PREFACE TO THE APPENDICES

1. INTRODUCTORY REMARKS

A principal aim (as stated in the Introduction to the main text) of this study is to document and explain changes in the rate of growth of the New Zealand economy. The function of the appendices is to (1) map changes in the level of economic activity and (2) show how a data set is generated that enables various theories purporting to explain oscillations in economic development to be tested.

To make empirical analyses it is necessary to "downgrade" the theory and at the same time upgrade the quality of evidential reports. The theory has to be reduced, made less subtle, so that it can be made accountable. The conceptual elements must interact as they do in the theory but the consequences of changes in certain relations must become apparent through relatively simple mathematic operations.

In short, for empirical analysis theory needs to be reformulated so that it can be set up, read and interpreted as a set of accounts. At the same time the information in official reports needs to be disaggregated down to a level from which it can be re-aggregated to express, approximately, the qualities and quantities of the theoretical concepts.

PREFACE TO THE APPENDICES

The task of reducing and simplifying the theories is performed in the main text. General problems encountered in transforming abstract theoretical concepts into concrete empirical categories, and the particular difficulties in translating marxian abstractions to fit with official statistics are discussed there also.

All technical-mechanical operations necessary to upgrade the evidence are contained in this separate volume. Separating the two tasks has obvious advantages. It makes the main text and its argument more readable and accessible. As well it allows us to show our method of working in a clear, step by step manner.

Wherever possible empirical evidence is taken into the main text as summary graphs. Each step in the process of generating the values for these graphs can be found in the tables of the appendices.

Since every stage in our analysis is accessible, in the main text (conceptual) or in an appendix (evidential: sources, collection, dis- and re-aggregation) it is possible to use the data in other ways. Critics can reorganise the data (or make other

adjustments) with ease. It ought to be a relatively simple matter to compare the results of alternative interpretations and explanations with our own.

2. METHOD OF WORKING

In generating the data set a number of conventions were adopted. These influence the process of preparing the data in a number of ways. Conventions employed and reasons for adopting them are detailed in the following.

The most general principle, applied wherever possible, is that Marxian hypotheses should be tested against the most readily accessible relevant material in official publications. This has two meanings. First, the sources we use are those which are most freely and readily available to non-specialists. Second, the most readily accessible material is that which requires the least amount of specialised knowledge to interpret.

Applying this principle, data was collected mostly from official reports of the Department of Statistics. Within this, data from the New Zealand Official Yearbooks (NZOYB) is used wherever possible.[1] All

data sources are carefully referenced. No sophisticated statistical techniques have been used in preparing the data set. Throughout only primary sources are used and all adjustments involve only simple arithmetical operations.

This approach ought to quiet those critics who argue that data can always be made to support an hypothesis. This may be true. But our data are not forced or fiddled with and figures are not "cooked". All sources are referenced and the initial data base can be easily verified. The simple arithmetic computations too can be easily checked. Whatever is discovered in the data is the result only of highlighting real trends and movements. No movements are induced by statistical procedure.

The next convention is to <u>always use those materials and techniques which are least likely to bias the data towards our explanation</u>. Where official revisions have been made to the data which compress oscillations in levels of economic activity we use the revisions. To fill missing values an "independent variable" is found and a fixed ratio is established was a basis for the estimates. These rules are obeyed even where they clearly introduce inaccuracies into the data base.

Thirdly, the convention is adopted that the data base should be as open as possible to alternative interpretations. An effort has been made to present the the data base in a form that can be used by those who do not share our positions. To facilitate scientific discussion and, hopefully, refinement and improvement of the series many tables are included the sole purpose of which is to enable rival interpretations. In the main text and in the appendices attention is drawn to precisions which involve a degree of subjectivity. It is important to combat subjectivism and relativism. This is best achieved by openly declaring the weaknesses in one's work and inviting constructive criticism. This approach is intended as a genuine aid to critical discussion and improvement.

Reworking empirical data is obviously as open to criticism, revision and refinement as is transforming abstract to concrete or bourgeois to marxian categories. Some subjective judgement is unavoidable in both cases. We are confident that our resolutions are the result of rational deliberation. At the same time we acknowledge there are other interpretations which could be made.

Finally, for all data reported years ending March

the statistical year has been shifted back by one year. From the end of the nineteenth century official economic surveys finish at the 31st of March each year. Thus, for example, the year 1967 in official economic statistics almost always refers to the twelve months ending March 31st, 1967. In our series "1967" refers to the year beginning March 31st 1967. This adjustment is made to all the relevant data series in this volume.

The fact that nine months of each statistical year refer to events occurring in the prior chronological year presents no special problem in itself. But it is a nuisance if "economic" developments are to be related to other social and political events. The latter are generally reported in normal chronological sequence (calendar years). Where data is reported in years ending December (e.g. Price Indices, Strike Statistics) no adjustment has been made. In each case figures cited by us for a given year will correspond to at least nine, not three, months of the year cited.

The consequence of operating these rules is that (a) the quality of the data, from a marxist standpoint, is reduced, (b) progress towards a clean data set is slow and clumsy and (c) we are continually carrying forward data which is not particularly interesting from the standpoint of the thesis.

3. PROBLEMS OF THE DATA SET AS A WHOLE

This volume documents three main operations: the collection of long run data series, the cleaning of these series to make them internally consistent, and the adjustment of the clean data to approximate theoretical categories. It has proved possible to achieve all to a much greater extent than we originally expected. Some obstacles however remain to date insurmountable, for technical reasons detailed in the relevant appendices..

Most of the problems dealt with in the tables are peculiar to particular aggregates. But there are a number of more general problems which apply to the data base as a whole. The most obvious is that of defining the proper boundaries of the data set.

Our primary concern is with fluctuations in the level of economic activity. Other things being equal, the longer the time span, the better the significance of long term trends, or deviations from these trends, can be evaluated. The application of this rule has clear limits however.

PREFACE TO THE APPENDICES

Sooner or later a point is reached where the advantages of extended coverage are outweighed by increasing imprecision. Key variables disappear; the indicators of key quantities become more tenuous to maintain, etc. There is therefore a definite dialectic between scope and precision. Determining the exact point at which precision and scope are best combined involves as much art as science.

The construction of long-run data series always requires numerous adjustments. These are necessary to combat the effects of changes in the statistical classification systems used. Over time key statistical categories are often redefined. The ways they are used or reported are revised as well. As a rule, the more general and abstract the category the longer it appears in the same form in official statistics. Thus "persons engaged" is a more "durable" official aggregate than categories which identify the functional occupations of those persons, their sex or their ethnic origin.

Stretching the data series is limited by the degree of detail required before the set of key analytic concepts can be operationalised. In our case this concept is surplus-value. Two major explanatory ratios - the rate of exploitation and the rate of profit - presuppose knowledge of the mass (absolute

quantity) of surplus-value.

Surplus-value is defined as all newly created value, i.e. the exchange-value (sale price) of commodities less the sum of the exchange-values required to reconstitute the original conditions of production (roughly the depreciation of fixed constant capital plus with the replacement of circulating constant and variable capital).

The sources in official statistics which provide the best information to establish these determinations are the annual reports of Factory Production. Among them, only those which (1) cover all the crucial elements, and (2) which can be made reasonably consistent over time are suitable to our purposes.

Most of our data series begin in 1923. In 1922 New Zealand statistics were brought into line with standard British conventions. The series end abruptly in 1970 when the New Zealand system began to change to bring it into line with the United Nations Standard Classification Of All Economic Activities (1958).

Only the factory production survey collects all the information required to calculate surplus-value. But only activities defined as factory production are

surveyed by it. Whenever an activity is reclassified out of factory production, all the vital information for that activity is usually no longer available.

Sometimes it is possible to delete all entries for the activity from the data set and neutralise the effect of a reclassification. Such an adjustment was possible, for instance, with the production of gas, electricity generation and the operations of tramways. Operating tramways was considered "factory production" to 1930 but not from 1931. Gas and electricity were classified as factory production to 1950 but excluded from then on.

However, such adjustments can only be made if the particular industry is reported as a separate and distinct entity throughout the annual census results. This is not always the case. For example, the revision in 1970 excluded Motor Vehicle Repairs and Maintenance from factory production. This industry was classified separately only from 1956. Since 1970 the industry is covered by the Census of Distribution. On the one hand, a full set of vital information is not available from 1970 and, on the other, it is impossible to remove the values for the industry prior to 1956. Redefinitions after 1970 thus set objective limits to this end of our series. This is regrettable. We should have preferred

to conclude our study with 1973, the year when the long post-war boom finally exhausted itself.

To make the series internally consistent it was necessary to delete all values for dairy factory production. The dairy industry uses accounting practices (see Appendix 4) unlike those used by all other industries in the Factory Production series.

The reports of Factory Production Survey results become more useful over time. For example, the elements in "other productive expenses" are more precise and detailed in later years; various elements in the residual category "other" are then identified separately (rent, interest paid on borrowed capital, etc). These details are essential to calculate surplus-value.

Where vital information is not directly available it is estimated. Wherever this proves necessary crude mechanical techniques are deliberately used (see the discussion in section 2, above). This produces a bias towards even, and against uneven, development. Most estimated values could be improved. They are probably misleading as indicators of absolute levels. But in our analysis these quantities are sub-elemental, i.e fractions of larger qualities. Interest payments, for

example, constitute only a fraction of total surplus-value. Our purpose in estimating interest payments is to include them in the total surplus-value. Less than 10% of total surplus-value is interest paid. Even a 100% overestimation of interest paid can only induce less than 10% error to the mass of surplus-value.

But in any event the mass of surplus-value is not in itself a crucial explanatory variable. The crucial variables are ratios: the rate of exploitation (the ratio of surplus-value to variable capital), and the rate of profit (the ratio of surplus-value to variable capital plus constant capital). Since the mass of surplus-value is only the numerator in a fraction, the effects of any original error are reduced even further in the ratios.

The old statistical adage, the sum of the parts is more robust than any of the parts on their own, justifies the use of these figures. Better estimates would moreover enhance marxist explanations, which is precisely the reason why we do not generate them. In the appendices which follow all such weaknesses are pointed out, case by case. In some instances the margin of error involved has been calculated.

Periodically Factory Production data are presented

in tables as "Historical Summaries". These summaries report the results of surveys, aggregated for all industries, for a number of consecutive years. Often the values cited in these summaries differ from those in the annual reports for the same years. In some cases values in earlier summaries differ from those in later ones.

We do not know the basis for these post-hoc revisions. The Department of Statistics considers revised figures superior to those in annual reports, and later revisions as more accurate than earlier ones. In general, revisions tend to even out economic growth. This may be the sole basis for making them. We doubt that revised data is more accurate than that in the original surveys (see Appendix 3, below).

Nevertheless where an historical summary is available it has been used. And, wherever one summary is superseded by another, we use the most recent one. (See section 2, above). This concession in itself poses problems. Historical summaries are only available at the aggregate level; i.e., they report only totals for all the industries combined. Yet, to delete values for particular industries the figures from the annual reports must be used. We therefore end up subtracting non-revised industry level data from revised total

sector level data.

As well, historical summaries report only gross aggregates; "persons engaged", "wages & salaries", "other productive expenses" and so on. Our analysis requires separate identification of productive and non-productive workers, the incomes of both groups, the various elements of other expenses, etc. Information at this level is only available in the annual reports. Again this means moving backwards and forwards through revised and non-revised data.

The problem here is obvious. But, to repeat, the inaccuracies introduced are significant only at the level of absolute quantities. Since in this thesis explanatory variables are ratios, not absolute values, the procedure is legitimate.

The logging operations of sawmilling, along with the production of gas and the generation of electricity, were excluded from factory production from 1950. Figures are not shown separately in the sub-accounts of the annual reports for this industry. Our final data from 1951-1970 is thus not entirely consistent with the 1923-1950 series. The effect is as follows: the real increase in the value of the product of the sector is underestimated for the year 1951 while

the volume of variable and circulating capital is overestimated. However logging is tiny relative to the whole sector (see Appendix 3, below). It is unlikely that this inconsistency has any discernable effect whatsoever at the level of our ratios.

The general problems commented on so far all appear again as particular problems in the appendices, where they are discussed case by case with reference to precise quantities. The quantitative importance of inaccuracies can be grasped better there. The discussion here aims only to alert the reader to the inconsistencies remaining in the data set after all our adjustments are made. The period we are most confident about in this respect is that from 1957 to 1970.

For all these qualifications, the data are not undermined. The least reliable figures we use are more rigorously obtained than those used in any other marxian analysis of New Zealands' economic history. Almost all the economic histories we are likely to read, marxian or bourgeois, use data less reliable than ours. Residual inconsistencies in the data mean only that the data should be used in an appropriately qualified way, not that it needs to be judged unsound and discarded.

Finally, there are no entries for the year 1948 in any factory production series in these appendices (see Appendix 3, below). It should therefore be kept in mind that any fluctuation in this data for 1949 represents changes over two years.

4: METHOD OF PRESENTATION

Each appendix deals with a separate problem. All similar operations are shown in the same appendix where possible. Two appendices (3 & 4) document the exclusion of the values for industries revised out of factory production: one covers gas, electricity and tramways, the other dairy factories. Both are concerned with making the data consistent but because the basis of the inconsistency in each case is quite different the adjustments are made in separate appendices.

The order of the appendices conforms to the sequence the data is required in the main text. In a few cases it is necessary to override this rule. The appendix dealing with price indices, for example, precedes that for national income because values in the first are required in the second.

PREFACE TO THE APPENDICES

Each appendix begins with an introduction defining its particular purpose, problem and method of resolution. Most appendices are divided into sections, each of which deals with a single element or variable. Each section again begins with an introduction defining the particular problem, data source, mode of operation, etc. Effort has been taken to maintain a standard sequence in the ordering of sections.

A full record of the data sources for data is given only in the section and appendix where that data is first introduced. Whatever problems are associated with these sources are also discussed there only. Once the data has been introduced it is used in subsequent tables so that adjustments build on preceding tables.

The system of numbering the tables is as follows: the number before the colon denotes the appendix (For example Appendix 4 details the exclusion of values for dairy factories. Tables which show this exclusion for particular aggregates are accordingly all prefixed Table 4:). The number following the colon defines the place of the table within that appendix.

Generally speaking, all tables have the same format: columns to the left are either source data or the results of some previous adjustment. The extreme

right-hand column is the result of the present adjustment. Many tables are concerned with deleting values for industries revised out of factory production. To make clear the stage that has been reached, data which <u>includes</u> gas, electricity, tramways and dairy factories is referred to as "N.Z. Manufacture". Where gas, electricity and tramways only have been excluded the data is referred to as "N.Z. Factory Production". Where dairy factories have been excluded as well the term "Revised Factory Production" is used. These terms (often abbreviated) are used as subtitles to tables. The subtitle refers to the most recent adjustment, i.e. to the data in the right hand column.

The common practice of numbering tables according to the chapter and order within the chapter of the main text has not been adopted. This was tried but the system was not suited to handle the sheer number of tables involved. It is followed only in the main text. Numbers assigned to graphs and tables inserted in the main text therefore do <u>not</u> correspond to the tables and appendices in this volume. Graphs and tables in the main text are therefore additionally referenced back to the appendices.

The entire system seems over-elaborate but no

other meets all our requirements. The system used provides a place for everything and everything has a non-arbitrary place. This was essential in the process of preparing and cleaning the data. Colleagues who wish to use our modified series will appreciate the system as they become familiar with it.

The tables in these appendices have been prepared on an IBM JX personal computer using IBM Planning Assistant software. Without such equipment the study would not have been possible. But at the same time the equipment set limits to the ways in which the data are operated are processed and the ways in which the results are presented. It is a relatively simple procedure to copy some or all the series in this volume for prospective users who have access to IBM compatible equipment. Copies not only preserve the series but also all formula used to make adjustments. The author would be pleased to make copies available to interested researchers on receipt of blank diskettes, type: IBM 3.5" Diskette 2DD.

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APPENDIX 1. PRICE INDICES

PRICES & INFLATION

Identifying changes in the rate of economic growth requires some constant relatively to which which the general level of economic activity can be measured. It requires a common demoninator which expresses everything subsumed under the heading "economic activity" in a single medium. Units of money are ideal in this respect because, in capitalist societies, the "value" of goods and services is sooner or later finds expression in prices fetched in markets.

The difficulty in using money units (so many dollars or pounds) is that the unit itself is somewhat fluid. Real fluctuations in the level of economic activity are typically obscured by changes in the purchasing power of the currency.
Other things being equal, a 10% rate of inflation will make a 5% fall in the level of economic activity appear as a 5% expansion.

To use money units to measure the real level of economic activity it is necessary to control for the effects of money devaluation, or, to put it the other way around, price inflation. This control exists where it is possible to index changes in the value of the unit overtime. Any year can then serve as base and the

index used to adjust for changes in the value of the unit for every other year.

This is precisely the function of a price index. A limitation of price indices, however, is that prices of different goods and services often inflate at different rates. To overcome this problem a number of different indices have been developed by official statisticians. Generally these are based around what marxists call the use-value of the commodity and the different reasons and motives persons have for purchasing the good or service (consumption or capital investment).

The Consumers' Price Index (CPI) measures changes in the retail prices of "a list of commodities and services purchased by the average household". The New Zealand CPI dates back to the establishment of an Index Committee in 1948 "to investigate the need and method of establishing a revised cost-of-living index and the report of this committee, parliamentary paper H.48 "Report of Index Committee" (NZOYB, 1957, p1215).

The index has been revised many times with respect to both the commodities on the list and their weighting in the overall calculations. For these revisions, see NZOYB 1947-49, pp1007-1016, (1949 Revision); NZOYB 1957, pp1214-1237 (1955 Revision); NZOYB 1966, pp684

(1965 Revision); NZOYB 1975, pp1039-1046 (1974 Revision); NZOYB 1979, pp594-595 (1977 Revision); 1981 NZOYB, pp974-981 (1980 Revision).

Retail price indices have been compiled since 1914 covering changes in retail prices for selected commodities from 1891. For the period 1870-1919 we have taken our index from M.N.Arnold, "Consumer Prices, 1870 to 1919", Department of Economics, Victoria University of Wellington, Discussion Paper No. 12. An historical survey of retail prices is given on pages 1007-1016 of the 1947-49 Year Book. Figures for 1919 to 1926 are come from that discussion. Data for 1927 is from NZOYB 1976, p979, for 1928 to 1927, NZOYB 1978, p893 and for 1978 to 1984 NZOYB 1985, p1008.

The data collected from all these sources has been chained together into a single index base 947 in 1977 (Dec. 1977=1000). We have for the sake of simplicity called the whole chain the "CPI", despite the fact that before 1942 the data represents only randomly selected retail prices, i.e. the index reports average and unweighted price movements.

The term "nominal dollars" is used to indicate values in current dollar units. The term "constant

dollars" (or "1984 dollars") indicates that values have been adjusted against an index. Constant dollars are obtained using the standard procedure: the nominal dollar figure for the year in question is divided by the CPI figure for the same year and the result of this sum is multiplied by the index figure for the base year ((Nominal $ yr#1/ CPI yr#1) * CPI yr#n). For example, to obtain the 1984 dollar equivalent of GNP for 1938, the 1938 nominal dollar figure for GNP ($472 million) is divided by the CPI for 1938 (131) and multiplied by the 1984 CPI (2157), giving the result $7765 million.

Where possible all constant dollar series shown are expressed in 1984 dollars. From a purely formal standpoint it makes no difference whatsoever which year should be chosen as the reference point. It is easier, however, to conceptualise the various magnitudes when they are expressed in the most contemporary values.

The CPI is not a very accurate gauge of overall price movements. It measures retail prices only while most factories purchase raw materials, etc., wholesale and not retail. Most of the product of factories is also sold wholesale. If the CPI is used as the sole means of reflating money units any divergence of the inflation rates of wholesale and retail prices would be missed.

APPENDIX 1. PRICE INDICES

To overcome this problem, wholesale price indices, taken from 1963 and 1980 NZOYB (pages 729 & 915 respectively) have been linked together. These indices were discontinued from 1977 and replaced by a "Producers' Price Index". All wholesale indices used here are base 1000 in December 1977. To reflate the dollars from 1977 to 1984 the indices have been linked back to the CPI (again base 1000=Dec 1977). This procedure yields far from exact results. But since these indices are only used for Factory Production series data to 1970, it is legitimate. Wholesale price indices are used to make adjustments in the same way as the CPI.

Only the CPI has been used to reflate values in National Accounts data. For Factory Production data the CPI is used to reflate wages and salaries, the index for imported wholesale prices to adjust the "value" of fixed capital, the total wholesale price index to reflate the outlays on raw materials and other productive expenses (the official measure is weighted to allow this) and the index for home produced wholesale prices to estimate the "value" of the total product.

Using price indices to adjust for the effects of

price inflation has other limits. Indices are calculated at fixed intervals. These intervals will not correspond to the rate and rhythm at which prices rise or fall. Annual index figures simply measure change between the beginning and the end of the year. If inflation is cumulative and constant through the year, costs of production will be lower at the beginning of the year than at the end, even for equivalent quantities and qualities of goods. If the rate of inflation fluctuates up and down through the year this will not be captured by the annual index either.

These difficulties have long been recognised by the government statisticians. Since the beginning of the CPI index figures have been published quarterly. More recently it has been available monthly. As well, for the period 1914 to the present Department of Statistics has recalculated the CPI to give average annual figures. No attempt is made in this study to combat problems in price fluctuations other than to use the official price indices and distinguish between different rates of inflation. Other influences are disregarded. This is legitimate as the period analysed ends before the "galloping" inflation of the 1970s and 80s. It should be stressed that, however great the problems and limitations of official indices, they must

be used to obtain the closest possible approximation to the real historical movement. Unadjusted figures come nowhere near this movement.

One difficulty remains. Most economic statistics are reported for periods ending March 31st each year. A consistent series of price indices for 1923-70 is only available for calendar years. Since price index figures cover December years it is obviously not necessary to shift the reference year back one. The time-intervals in the two sets of data therefore do not quite mesh. The three-month discrepancy has little if any effect on the final results however. It may indeed improve the accuracy of the figures. Since inflation is with few exceptions cumulative, the annual average in fact reflects the price level precisely only at a point somewhere between the middle and the end of the year.

Some effort is made to ensure the best possible picture of the real historical movement. Nevertheless it should be remembered that price indices are not simply based on actual outcomes. Each index is calculated in terms of a "regimen", a system of averages in which each selected good is given a preconceived weighting (so many of item X for each item Y and so on). The validity of any index always depends on the degree to which the actual flow of X's and Y's

match those of the regimen.

Regimens have been revised with increasing frequency. Details can be found in a separate series of publications (Revision of the Consumers' Price Index) and in MAS. Special articles in NZOYB discuss several, but not all, revisions (see p21 above). Given that sources and methods have improved over time, index figures at the end are probably more accurate than those at the beginning. Whatever the case, care should be taken in extrapolating from estimates in the form of absolute levels. Any divergence between estimated and actual levels would, of course, need to be substantial if they were to be significant at the level of our key variables - the ratios of value relation:- S/V, C/V, S/C+V.

TABLE 1:1 KEY PRICE INDICES
NEW ZEALAND, 1870-1984

	CONSUMER PRICE INDEX	--WHOLESALE PRICE INDICES-- IMPORTED	HOME PRODUCED	TOTAL
1870	101			
1871	107			
1872	110			
1873	105			
1874	106			
1875	103			
1876	100			
1877	102			
1878	103			
1879	86			
1880	90			
1881	90			
1882	91			
1883	91			
1884	88			
1885	84			
1886	82			
1887	76			
1888	77			
1889	75			
1890	73			
1891	76			
1892	71			
1893	71			
1894	70			
1895	69			
1896	71			
1897	71			
1898	71			
1899	69			
1900	70			
1901	75			
1902	76			
1903	76			
1904	76			
1905	78			
1906	79			
1907	80			
1908	80			
1909	80			
1910	82			
1911	82			
1912	85			

TABLE 1:1 KEY PRICE INDICES
NEW ZEALAND, 1870-1984

	CONSUMER PRICE INDEX	--WHOLESALE PRICE INDICES-- IMPORTED	HOME PRODUCED	TOTAL
1913	87	75	84	82
1914	88	75	91	85
1915	92	76	106	91
1916	99	87	110	100
1917	110	106	119	116
1918	122	134	129	139
1919	136	141	135	146
1920	151	175	151	174
1921	151	155	153	162
1922	136	129	130	136
1923	135	115	130	127
1924	137	113	135	127
1925	138	112	136	126
1926	139	105	130	120
1927	138	98	126	114
1928	138	96	127	113
1929	138	95	127	112
1930	135	93	122	109
1931	125	91	108	102
1932	115	91	102	100
1933	109	96	100	102
1934	111	95	103	103
1935	115	95	111	107
1936	119	95	114	107
1937	127	103	122	116
1938	131	104	125	118
1939	136	106	133	122
1940	142	125	136	136
1941	148	140	144	149
1942	152	154	151	161
1943	156	170	153	172
1944	159	175	156	177
1945	161	178	159	180
1946	162	177	162	181
1947	167	181	173	187
1948	181	204	190	209
1949	184	199	194	207
1950	194	211	221	226
1951	216	246	257	263
1952	232	278	279	292
1953	243	264	295	290
1954	254	252	309	287
1955	260	256	309	290

TABLE 1:1 KEY PRICE INDICES
NEW ZEALAND, 1870-1984

	CONSUMER PRICE INDEX	--WHOLESALE PRICE INDICES-- IMPORTED	HOME PRODUCED	TOTAL
1956	269	263	326	301
1957	275	270	323	305
1958	287	279	331	313
1959	298	286	335	318
1960	300	282	338	319
1961	306	283	336	318
1962	314	283	333	316
1963	320	289	339	322
1964	331	289	357	334
1965	343	295	368	343
1966	352	300	374	349
1967	373	311	380	357
1968	389	348	399	382
1969	409	364	420	401
1970	435	387	445	425
1971	481	416	478	457
1972	514	444	512	489
1973	556	471	591	551
1974	618	556	617	595
1975	708	701	661	674
1976	828	849	813	825
1977	947	966	959	961
1978	1,060	1,060	1,060	1,060
1979	1,206	1,206	1,206	1,206
1980	1,412	1,412	1,412	1,412
1981	1,629	1,629	1,629	1,629
1982	1,893	1,893	1,893	1,893
1983	2,032	2,032	2,032	2,032
1984	2,157	2,157	2,157	2,157
1984				

TABLE 1:2 CHANGE IN CONSUMER PRICE INDEX
NEW ZEALAND, 1870-1984

	CONSUMERS' PRICE INDEX					
		PR.	INCREASE		DECREASE	
	TOTAL	TOTAL	POINTS	%	POINTS	%
1870	101					
1871	107	101	6	5.94		
1872	110	107	3	2.80		
1873	105	110			-5	-4.55
1874	106	105	1	0.95		
1875	103	106			-3	-2.83
1876	100	103			-3	-2.91
1877	102	100	2	2.00		
1878	103	102	1	0.98		
1879	86	103			-17	-16.50
1880	90	86	4	4.65		
1881	90	90	0	0.00		
1882	91	90	1	1.11		
1883	91	91	0	0.00		
1884	88	91			-3	-3.30
1885	84	88			-4	-4.55
1886	82	84			-2	-2.38
1887	76	82			-6	-7.32
1888	77	76	1	1.32		
1889	75	77			-2	-2.60
1890	73	75			-2	-2.67
1891	76	73	3	4.11		
1892	71	76			-5	-6.58
1893	71	71	0	0.00		
1894	70	71			-1	-1.41
1895	69	70			-1	-1.43
1896	71	69	2	2.90		
1897	71	71	0	0.00		
1898	71	71	0	0.00		
1899	69	71			-2	-2.82
1900	70	69	1	1.45		
1901	75	70	5	7.14		
1902	76	75	1	1.33		
1903	76	76	0	0.00		
1904	76	76	0	0.00		
1905	78	76	2	2.63		
1906	79	78	1	1.28		
1907	80	79	1	1.27		
1908	80	80	0	0.00		
1909	80	80	0	0.00		
1910	82	80	2	2.50		
1911	82	82	0	0.00		
1912	85	82	3	3.66		

TABLE 1:2 CHANGE IN CONSUMER PRICE INDEX
NEW ZEALAND, 1870-1984

	CONSUMERS' PRICE INDEX					
		PR.	INCREASE		DECREASE	
	TOTAL	TOTAL	POINTS	%	POINTS	%
1913	87	85	2	2.35		
1914	88	87	1	1.15		
1915	92	88	4	4.55		
1916	99	92	7	7.61		
1917	110	99	11	11.11		
1918	122	110	12	10.91		
1919	136	122	14	11.48		
1920	151	136	15	11.03		
1921	151	151	0	0.00		
1922	136	151			-15	-9.93
1923	135	136			-1	-0.74
1924	137	135	2	1.48		
1925	138	137	1	0.73		
1926	139	138	1	0.72		
1927	138	139			-1	-0.72
1928	138	138	0	0.00		
1929	138	138	0	0.00		
1930	135	138			-3	-2.17
1931	125	135			-10	-7.41
1932	115	125			-10	-8.00
1933	109	115			-6	-5.22
1934	111	109	2	1.83		
1935	115	111	4	3.60		
1936	119	115	4	3.48		
1937	127	119	8	6.72		
1938	131	127	4	3.15		
1939	136	131	5	3.82		
1940	142	136	6	4.41		
1941	148	142	6	4.23		
1942	152	148	4	2.70		
1943	156	152	4	2.63		
1944	159	156	3	1.92		
1945	161	159	2	1.26		
1946	162	161	1	0.62		
1947	167	162	5	3.09		
1948	181	167	14	8.38		
1949	184	181	3	1.66		
1950	194	184	10	5.43		
1951	216	194	22	11.34		
1952	232	216	16	7.41		
1953	243	232	11	4.74		
1954	254	243	11	4.53		
1955	260	254	6	2.36		

TABLE 1:2 CHANGE IN CONSUMER PRICE INDEX
NEW ZEALAND, 1870-1984

	CONSUMERS' PRICE INDEX					
		PR.	INCREASE		DECREASE	
	TOTAL	TOTAL	POINTS	%	POINTS	%
1956	269	260	9	3.46		
1957	275	269	6	2.23		
1958	287	275	12	4.36		
1959	298	287	11	3.83		
1960	300	298	2	0.67		
1961	306	300	6	2.00		
1962	314	306	8	2.61		
1963	320	314	6	1.91		
1964	331	320	11	3.44		
1965	343	331	12	3.63		
1966	352	343	9	2.62		
1967	373	352	21	5.97		
1968	389	373	16	4.29		
1969	409	389	20	5.14		
1970	435	409	26	6.36		
1971	481	435	46	10.57		
1972	514	481	33	6.86		
1973	556	514	42	8.17		
1974	618	556	62	11.15		
1975	708	618	90	14.56		
1976	828	708	120	16.95		
1977	947	828	119	14.37		
1978	1,060	947	113	11.93		
1979	1,206	1,060	146	13.77		
1980	1,413	1,206	207	17.16		
1981	1,631	1,413	218	15.43		
1982	1,893	1,631	262	16.06		
1983	2,032	1,893	139	7.34		
1984	2,157	2,032	125	6.15		

TABLE 1:3 CPI.- AVERAGE AND ACTUAL INDEX
NEW ZEALAND, 1870-1984

	--CONSUMERS' PRICE INDEX--				-RATE FOR EVEN INFL.-		
		PR.	---CHANGE---		ANN.	ST.	2.7213
	TOTAL	TOTAL	NO.	%	%	DEVN	% CUM.
1870	101				2.72		101
1871	107	101	6	5.94	2.72	3.22	104
1872	110	107	3	2.80	2.72	0.08	107
1873	105	110	-5	-4.55	2.72	-7.27	109
1874	106	105	1	0.95	2.72	-1.77	112
1875	103	106	-3	-2.83	2.72	-5.55	116
1876	100	103	-3	-2.91	2.72	-5.63	119
1877	102	100	2	2.00	2.72	-0.72	122
1878	103	102	1	0.98	2.72	-1.74	125
1879	86	103	-17	-16.50	2.72	-19.22	129
1880	90	86	4	4.65	2.72	1.93	132
1881	90	90	0	0.00	2.72	-2.72	136
1882	91	90	1	1.11	2.72	-1.61	139
1883	91	91	0	0.00	2.72	-2.72	143
1884	88	91	-3	-3.30	2.72	-6.02	147
1885	84	88	-4	-4.55	2.72	-7.27	151
1886	82	84	-2	-2.38	2.72	-5.10	155
1887	76	82	-6	-7.32	2.72	-10.04	159
1888	77	76	1	1.32	2.72	-1.40	164
1889	75	77	-2	-2.60	2.72	-5.32	168
1890	73	75	-2	-2.67	2.72	-5.39	173
1891	76	73	3	4.11	2.72	1.39	177
1892	71	76	-5	-6.58	2.72	-9.30	182
1893	71	71	0	0.00	2.72	-2.72	187
1894	70	71	-1	-1.41	2.72	-4.13	192
1895	69	70	-1	-1.43	2.72	-4.15	198
1896	71	69	2	2.90	2.72	0.18	203
1897	71	71	0	0.00	2.72	-2.72	209
1898	71	71	0	0.00	2.72	-2.72	214
1899	69	71	-2	-2.82	2.72	-5.54	220
1900	70	69	1	1.45	2.72	-1.27	226
1901	75	70	5	7.14	2.72	4.42	232
1902	76	75	1	1.33	2.72	-1.39	238
1903	76	76	0	0.00	2.72	-2.72	245
1904	76	76	0	0.00	2.72	-2.72	252
1905	78	76	2	2.63	2.72	-0.09	258
1906	79	78	1	1.28	2.72	-1.44	266
1907	80	79	1	1.27	2.72	-1.45	273
1908	80	80	0	0.00	2.72	-2.72	280
1909	80	80	0	0.00	2.72	-2.72	288
1910	82	80	2	2.50	2.72	-0.22	296
1911	82	82	0	0.00	2.72	-2.72	304
1912	85	82	3	3.66	2.72	0.94	312

TABLE 1:3 CPI.- AVERAGE AND ACTUAL INDEX
NEW ZEALAND, 1870-1984

	--CONSUMERS' PRICE INDEX--				-RATE FOR EVEN		INFL.-
		PR.	---CHANGE---		ANN.	ST.	2.7213
	TOTAL	TOTAL	NO.	%	%	DEVN	% CUM.
1913	87	85	2	2.35	2.72	-0.37	320
1914	88	87	1	1.15	2.72	-1.57	329
1915	92	88	4	4.55	2.72	1.83	338
1916	99	92	7	7.61	2.72	4.89	347
1917	110	99	11	11.11	2.72	8.39	357
1918	122	110	12	10.91	2.72	8.19	366
1919	136	122	14	11.48	2.72	8.76	376
1920	151	136	15	11.03	2.72	8.31	387
1921	151	151	0	0.00	2.72	-2.72	397
1922	136	151	-15	-9.93	2.72	-12.65	408
1923	135	136	-1	-0.74	2.72	-3.46	419
1924	137	135	2	1.48	2.72	-1.24	431
1925	138	137	1	0.73	2.72	-1.99	442
1926	139	138	1	0.72	2.72	-2.00	454
1927	138	139	-1	-0.72	2.72	-3.44	467
1928	138	138	0	0.00	2.72	-2.72	479
1929	138	138	0	0.00	2.72	-2.72	492
1930	135	138	-3	-2.17	2.72	-4.89	506
1931	125	135	-10	-7.41	2.72	-10.13	520
1932	115	125	-10	-8.00	2.72	-10.72	534
1933	109	115	-6	-5.22	2.72	-7.94	548
1934	111	109	2	1.83	2.72	-0.89	563
1935	115	111	4	3.60	2.72	0.88	578
1936	119	115	4	3.48	2.72	0.76	594
1937	127	119	8	6.72	2.72	4.00	610
1938	131	127	4	3.15	2.72	0.43	627
1939	136	131	5	3.82	2.72	1.10	644
1940	142	136	6	4.41	2.72	1.69	662
1941	148	142	6	4.23	2.72	1.51	680
1942	152	148	4	2.70	2.72	-0.02	698
1943	156	152	4	2.63	2.72	-0.09	717
1944	159	156	3	1.92	2.72	-0.80	737
1945	161	159	2	1.26	2.72	-1.46	757
1946	162	161	1	0.62	2.72	-2.10	777
1947	167	162	5	3.09	2.72	0.37	798
1948	181	167	14	8.38	2.72	5.66	820
1949	184	181	3	1.66	2.72	-1.06	842
1950	194	184	10	5.43	2.72	2.71	865
1951	216	194	22	11.34	2.72	8.62	889
1952	232	216	16	7.41	2.72	4.69	913
1953	243	232	11	4.74	2.72	2.02	938
1954	254	243	11	4.53	2.72	1.81	963
1955	260	254	6	2.36	2.72	-0.36	990

TABLE 1:3 CPI.- AVERAGE AND ACTUAL INDEX
NEW ZEALAND, 1870-1984

	--CONSUMERS' PRICE INDEX--				-RATE FOR EVEN	INFL.-
		PR.	---CHANGE---		ANN.	ST.	2.7213
	TOTAL	TOTAL	NO.	%	%	DEVN	% CUM.
1956	269	260	9	3.46	2.72	0.74	1,017
1957	275	269	6	2.23	2.72	-0.49	1,044
1958	287	275	12	4.36	2.72	1.64	1,073
1959	298	287	11	3.83	2.72	1.11	1,102
1960	300	298	2	0.67	2.72	-2.05	1,132
1961	306	300	6	2.00	2.72	-0.72	1,163
1962	314	306	8	2.61	2.72	-0.11	1,194
1963	320	314	6	1.91	2.72	-0.81	1,227
1964	331	320	11	3.44	2.72	0.72	1,260
1965	343	331	12	3.63	2.72	0.91	1,294
1966	352	343	9	2.62	2.72	-0.10	1,330
1967	373	352	21	5.97	2.72	3.25	1,366
1968	389	373	16	4.29	2.72	1.57	1,403
1969	409	389	20	5.14	2.72	2.42	1,441
1970	435	409	26	6.36	2.72	3.64	1,480
1971	481	435	46	10.57	2.72	7.85	1,521
1972	514	481	33	6.86	2.72	4.14	1,562
1973	556	514	42	8.17	2.72	5.45	1,605
1974	618	556	62	11.15	2.72	8.43	1,648
1975	708	618	90	14.56	2.72	11.84	1,693
1976	828	708	120	16.95	2.72	14.23	1,739
1977	947	828	119	14.37	2.72	11.65	1,786
1978	1,060	947	113	11.93	2.72	9.21	1,835
1979	1,206	1,060	146	13.77	2.72	11.05	1,885
1980	1,413	1,206	207	17.16	2.72	14.44	1,936
1981	1,631	1,413	218	15.43	2.72	12.71	1,989
1982	1,893	1,631	262	16.06	2.72	13.34	2,043
1983	2,032	1,893	139	7.34	2.72	4.62	2,099
1984	2,157	2,032	125	6.15	2.72	3.43	2,156

APPENDIX 2: NATIONAL INCOME

NATIONAL INCOME & EXPENDITURE ACCOUNTS

The purpose of modern national accounts is to summarise the economic activity of a country and measure the total value of production during a particular period of account. The "national income" of New Zealand is the total value of gross incomes received by N.Z. residents in the process of producing the current output of goods and services. It is measurable in the form of three flows: (1) the total expenditure on final products in a given period; (2) the "value-added" in that period by production units; and (3) the gross incomes actually received by all those who share in the economy's product. Each method has its own technical problems and all of them are therefore used to arrive at estimates of national income in modern social accounting.

The first known estimate of national income for New Zealand was made (for 1865) by the Knight Commission. This Commission was established to determine the most efficient way to raise an income tax (see J.A. Dowie, "A Century-old Estimate of the National Income of New Zealand", in Business Archives and History, v6 n2, Aug 1966, pp. 117-131). In the 1880s, 1890s and 1900s estimates were produced for individual years by Mainwaring Brown, Mulhall and

Coghlan (ibid.)

Since 1888 private wealth was estimated using estate duty statistics, property tax data and census results. After the introduction of an income tax in 1892 information taken from the returns enabled increasingly refined analyses. Standard tabulations of income tax data were published from 1923.

The first national income estimates of the Keynesian type were made in the mid-1930s (see e.g. F.B. Stephens, "National Income of New Zealand", in The Economic Record, December 1936, pp. 231-256). A further stimulus was provided by the economist Colin Clark, who visited New Zealand in 1938 and caused some controversy when he highlighted the negative effect of widespread tax evasion on national income estimates (see Tomorrow, issues of March 2, March 30 and April 13).

National accounts consistent with United Nations standards were compiled from 1948 (see the annual Reports on National Income and Expenditure published by New Zealand Department of Statistics). A full set of estimates is also available from 1938 to 1947.

A major revision was undertaken in the 1970s to

bring the existing system into line with new UN standards (see A System of National Accounts, Studies in Methods Series F, No. 2, Rev. 3, United Nations, New York, 1968). This new system came into operation in New Zealand in 1977 and a full set of revised accounts is available for the period 1971-76. Using the old accounts, the Reserve Bank of New Zealand (RBNZ) extended the main aggregates of the new system back to 1961 (see Consolidated National Accounts on an SNA Basis, RBNZ Research Paper No. 32, May 1981). These figures are cited in the current official guide to National Accounts statistics (see The New Zealand System of National Accounts: Concepts and Design 1971-72 to 1980-81. N.Z. Department of Statistics, p 95). Since 1980 the new series has undergone significant revisions. Quarterly national accounts are now available for 1977-84. A discussion of the differences between the old and the current accounting systems can be found in T. R. O'Malley, "Introducing the New Zealand System of National Accounts", in Quarterly Predictions of National Income and Expenditure, New Zealand Institute of Economic Research (NZIER), September 1979.

Because national income in New Zealand has been measured using different concepts and data sources, it is not possible to construct a time series which is fully consistent for the whole period since 1923. At

the same time, new aggregates evolved out of criticism of the old. This creates a degree of continuity which allows the extension of series back to 1925. Though the absolute levels of linked series may differ considerably, and should be treated with caution, the resulting picture does reveal the main trends of economic activity.

Sources for national income data in tables 1:1 to 1:5 and 1:8 to 1:10 are as follows: for 1940-42 and 1944-45 as well as for data in column E before 1954: Report of National Income and Expenditure 1955-56 and Monthly Abstract of Statistics; for 1943 and 1946: NZOYB 1966, p 714; for 1938, 1948, and 1949: NZOYB 1971, p. 708; for 1950 NZOYB 1972, p. 669; for 1951: NZOYB 1973, p. 689; for 1952: NZOYB 1974, p. 697; for 1953: NZOYB 1975, p 682; for 1954-67: NZOYB 1976, p. 678; for 1968 NZOYB 1977, p. 634; for 1969 to 1976: NZOYB 1978, p. 632. In the long-run series of tables 1:6 and 1:7, data for 1926 to 1937 are based on the estimates cited in Colin Clark, The Conditions of Economic Progress, 3rd Ed., London, MacMillan, 1960 (alternative GNP estimates for 1932-1937 are cited in NZOYB 1957, p. 717) . Data for 1938 to 1976 are brought forward from previous tables. Data for 1977 to 1983 are NZSNA estimates cited in NZOYB. In table 1:11, GDP estimates for 1948 to 1960 are taken from NZOYB;

for 1961 to 1970: Reserve Bank estimates cited in NZSNA Concepts & Design 1971-72 to 1980-81, p. 95; for 1971 to 1974: ibid., p. 99; for 1975 to 1983: Monthly Abstract of Statistics, August 1985; for 1984, Dept of Statistics Information Service bulletin, #85/198, November 1985.

National income estimates are notoriously prone to revision. In general later estimates are higher than earlier ones and smooth out fluctuations to some extent. In addition to a series of the latest revised estimates, a number of separate tables are included showing the first (non-revised) final estimates for some principal aggregates (see below).

The legend for Table 1:1 is as follows:

A = Salary & Wage payments,

B = Pay & Allowances of Armed Forces,

C = Ownership of Owner Occupied Houses,

D = Other Personal Income,

E = Subsidies to Producer Boards,

F = Company Income,

G = Public Authority Trading Income,

H = Lump Sum Payments from the Government of the United Kingdom,

I = Public Debt Interest Paid in New Zealand,

K = Indirect Taxation,

L = Subsidies,

N = Depreciation Allowances.

As explained in Chapter One of the main text, these totals are combined in different ways to produce the various principal aggregates of national income:

National Income at Factor Cost (NIFC) equals (A+B+C+D+E+F+G)-I. National Income at Market Prices (NIMP) equals (A+B+C+D+E+F+G+H+K)-(I+L). Gross National Product (GNP) equals (A+B+C+D+E+F+G+H+K+N+)-(I+K).

Estimates of "real" (inflation adjusted) Gross Domestic Product (GDP) are available for the period from 1954. To keep all the series consistent these estimates have not been used. The constant dollar estimates of GDP in this appendix have been adjusted against the CPI and produced according to the procedure laid out in Appendix 1.

Tables 1:1 and 1:2 show the raw data. Tables 1:3, 1:4, 1:5 & 1:6 show both absolute and percentage changes on an annual basis. Absolute change (CHANGE ABSOLUTE or NO.) is simply the margin of difference between one year (TOTAL) and the previous year (PR. TOTAL). Percentage change (% CHANGE or %) is a

translation of the the absolute difference into percentage terms; (((Total -Pr. Total)*100)/ Pr.Total).

These values are required for graphs illustrating the general rhythm of capitalist growth, which is one of cycles of contraction and expansion.

Tables 1:7 to 1:10 show the values for graphs which illustrate the longer, wave-like, motion which gives the general context (what Ernest Mandel refers to as "Grundton" or undertone) the cycles operate within. Taking the value for the first year and that for the last the annual cumulative growth rate which would have occurred had expansion been constant for the whole of the period is calculated. Cumulative growth, based on this average, was then plotted for each year in the series. The graphs in the main text show both the constant and actual growth rates so they can be compared. The unevenness of real historical growth is thereby illustrated ina strking way.

The remaining tables in the appendix all deal with Gross Domestic Product. Manipulations to this data are identical to those stated above.

In this appendix, the term "revised" is reserved

for official adjustments, revisions by the Department of Statistics and/or the Reserve Bank. The term "adjusted" refers to alterations we have made to the data. Thus, for example, "adjusted GDP" is official GDP less income flows which do not reflect real economic activity (see Chapter One of the main text).

TABLE 2:1 COMPUTATION AND ESTIMATES OF NATIONAL INCOME
NEW ZEALAND, 1938-1976

	ELEMENTS TO NATIONAL INCOME AGGREGATES — MILLIONS OF NOMINAL DOLLARS														
YEAR	A	B	C	D	E	F	G	H	I	K	L	N	N.I.F.C	N.I.M.P	G.N.P
1938	223	2	13	109	2	39	18	0	14	41	1	34	392	432	466
1939	222	6	13	119	0	50	21	6	15	41	1	36	422	462	498
1940	236	31	15	114	2	47	24	6	16	44	3	36	459	500	536
1941	242	51	15	114	4	55	27	6	17	45	5	36	497	537	573
1942	254	92	16	129	5	66	33	6	19	55	7	38	582	630	668
1943	281	117	17	134	10	73	36	6	23	64	6	40	651	709	749
1944	294	84	18	145	14	76	29	10	26	67	9	42	644	702	744
1945	234	83	19	169	6	83	31	10	28	73	13	44	607	667	711
1946	373	83	20	196	25	96	30	10	30	86	24	52	803	865	917
1947	420	13	22	234	26	106	28	10	31	106	27	58	828	907	965
1948	454	9	23	246	22	97	26	0	31	92	23	64	846	915	979
1949	500	9	25	296	18	116	29	0	32	100	29	70	961	1,032	1,102
1950	557	12	27	452	35	142	34	0	34	111	19	78	1,225	1,317	1,395
1951	656	17	30	372	11	160	40	0	35	142	32	86	1,251	1,361	1,447
1952	696	21	33	400	8	155	39	0	34	134	30	96	1,318	1,422	1,518
1953	769	24	37	445	3	181	50	0	37	135	31	106	1,472	1,576	1,682
1954	862	24	40	462	1	195	60	0	41	161	27	122	1,603	1,737	1,859
1955	937	24	43	462	11	188	64	0	42	171	25	132	1,687	1,833	1,965
1956	990	24	46	512	-10	197	61	0	47	168	27	146	1,773	1,914	2,060

TABLE 2:1 COMPUTATION AND ESTIMATES OF NATIONAL INCOME
NEW ZEALAND, 1938-1976

	ELEMENTS TO NATIONAL INCOME AGGREGATES — MILLIONS OF NOMINAL DOLLARS														
	A	B	C	D	E	F	G	H	I	K	L	N	N.I.F.C	N.I.M.P	G.N.P
1957	1,068	26	48	567	-39	211	65	0	53	182	27	158	1,893	2,048	2,206
1958	1,116	25	50	522	1	219	74	0	57	208	27	166	1,950	2,131	2,297
1959	1,181	26	51	561	20	242	82	0	59	217	26	168	2,104	2,295	2,463
1960	1,277	27	51	609	-11	291	91	0	65	226	31	185	2,270	2,465	2,650
1961	1,365	27	60	586	-10	288	100	0	70	231	28	204	2,346	2,549	2,753
1962	1,445	29	81	623	6	323	105	0	77	228	29	219	2,535	2,734	2,953
1963	1,554	30	86	691	9	370	123	0	89	254	30	232	2,774	2,998	3,230
1964	1,723	32	96	719	11	418	136	0	95	276	35	249	3,040	3,281	3,530
1965	1,890	36	109	748	-6	480	147	0	104	289	39	273	3,300	3,550	3,823
1966	2,041	40	114	720	-9	474	147	0	116	301	39	300	3,411	3,673	3,973
1967	2,127	42	124	717	-4	464	167	0	124	316	21	319	3,513	3,808	4,127
1968	2,240	45	130	714	-6	525	185	0	136	343	19	333	3,697	4,021	4,354
1969	2,493	47	140	766	-8	605	202	0	148	377	28	364	4,097	4,446	4,810
1970	3,004	56	156	810	1	644	171	0	158	462	52	440	4,684	5,094	5,534
1971	3,555	68	169	1,017	50	653	199	0	171	537	89	465	5,540	5,988	6,453
1972	3,993	70	201	1,277	-3	913	220	0	190	603	101	515	6,481	6,983	7,498
1973	4,767	79	217	1,398	-10	1,032	250	0	219	687	134	615	7,514	8,067	8,682
1974	5,678	84	253	1,262	-7	989	158	0	233	725	132	675	8,184	8,777	9,452
1975	6,562	95	301	1,565	-19	1,144	153	0	260	861	229	741	9,541	10,173	10,914
1976	7,500	104	341	1,851	-10	1,308	379	0	324	983	173	827	11,149	11,959	12,786

TABLE 2:2 NATIONAL INCOME AGGREGATES IN CONSTANT DOLLARS
NEW ZEALAND, 1938-1976

	-------MILLIONS OF------- -----NOMINAL DOLLARS-----			CONS' PRICE	--------MILLIONS OF-------- -----CONSTANT DOLLARS------		
	N.I.F.C	N.I.M.P	G.N.P	INDEX	N.I.F.C.	N.I.M.P.	G.N.P.
1938	398	438	472	131	6,553	7,212	7,772
1939	422	462	498	136	6,693	7,327	7,898
1940	459	500	536	142	6,972	7,595	8,142
1941	497	537	573	148	7,243	7,826	8,351
1942	582	630	668	152	8,259	8,940	9,479
1943	651	709	749	156	9,001	9,803	10,356
1944	644	702	744	159	8,737	9,523	10,093
1945	607	667	711	161	8,132	8,936	9,526
1946	803	865	917	162	10,692	11,517	12,210
1947	828	907	965	167	10,695	11,715	12,464
1948	846	915	979	181	10,082	10,904	11,667
1949	961	1,032	1,102	184	11,266	12,098	12,919
1950	1,225	1,317	1,395	194	13,620	14,643	15,510
1951	1,251	1,361	1,447	216	12,493	13,591	14,450
1952	1,318	1,422	1,518	232	12,254	13,221	14,113
1953	1,499	1,603	1,709	243	13,306	14,229	15,170
1954	1,603	1,737	1,859	254	13,613	14,751	15,787
1955	1,687	1,833	1,965	260	13,996	15,207	16,302
1956	1,771	1,912	2,058	269	14,201	15,332	16,502
1957	1,893	2,048	2,206	275	14,848	16,064	17,303
1958	1,950	2,131	2,297	287	14,656	16,016	17,264
1959	2,104	2,295	2,463	298	15,229	16,612	17,828
1960	2,270	2,465	2,650	300	16,321	17,723	19,053
1961	2,346	2,549	2,753	306	16,537	17,968	19,406
1962	2,535	2,734	2,953	314	17,414	18,781	20,285
1963	2,774	2,998	3,230	320	18,698	20,208	21,772
1964	3,040	3,281	3,530	331	19,811	21,381	23,004
1965	3,300	3,550	3,823	343	20,752	22,325	24,041
1966	3,411	3,673	3,973	352	20,902	22,508	24,346
1967	3,513	3,808	4,127	373	20,315	22,021	23,866
1968	3,697	4,021	4,354	389	20,500	22,296	24,143
1969	4,097	4,446	4,810	409	21,607	23,447	25,367
1970	4,684	5,094	5,534	435	23,226	25,259	27,441
1971	5,540	5,988	6,453	481	24,844	26,853	28,938
1972	6,481	6,983	7,498	514	27,198	29,304	31,465
1973	7,514	8,067	8,682	556	29,151	31,296	33,682
1974	8,184	8,777	9,452	618	28,565	30,634	32,990
1975	9,541	10,173	10,914	708	29,068	30,993	33,251
1976	11,149	11,959	12,786	828	29,044	31,154	33,308

TABLE 2:3 NATIONAL INCOME AT FACTOR COST, CHANGE & % CHANGE
NEW ZEALAND, 1938-1976

	MILLIONS 1984 DOLLARS-					
		PR.	--INCREASE---		---DECREASE---	
	TOTAL	TOTAL	NO.	%	NO.	%
1938	6,553					
1939	6,693	6,553	140	2.13		
1940	6,972	6,693	279	4.17		
1941	7,243	6,972	271	3.89		
1942	8,259	7,243	1,016	14.02		
1943	9,001	8,259	742	8.99		
1944	8,737	9,001			-265	-2.94
1945	8,132	8,737			-604	-6.92
1946	10,692	8,132	2,560	31.47		
1947	10,695	10,692	3	0.03		
1948	10,082	10,695			-613	-5.73
1949	11,266	10,082	1,184	11.74		
1950	13,620	11,266	2,355	20.90		
1951	12,493	13,620			-1,128	-8.28
1952	12,254	12,493			-239	-1.91
1953	13,306	12,254	1,052	8.58		
1954	13,613	13,306	307	2.31		
1955	13,996	13,613	383	2.81		
1956	14,201	13,996	205	1.47		
1957	14,848	14,201	647	4.56		
1958	14,656	14,848			-192	-1.30
1959	15,229	14,656	574	3.91		
1960	16,321	15,229	1,092	7.17		
1961	16,537	16,321	216	1.32		
1962	17,414	16,537	877	5.30		
1963	18,698	17,414	1,284	7.38		
1964	19,811	18,698	1,112	5.95		
1965	20,752	19,811	942	4.75		
1966	20,902	20,752	150	0.72		
1967	20,315	20,902			-587	-2.81
1968	20,500	20,315	185	0.91		
1969	21,607	20,500	1,107	5.40		
1970	23,226	21,607	1,619	7.49		
1971	24,844	23,226	1,617	6.96		
1972	27,198	24,844	2,354	9.47		
1973	29,151	27,198	1,953	7.18		
1974	28,565	29,151			-586	-2.01
1975	29,068	28,565	503	1.76		
1976	29,044	29,068			-24	-0.08

TABLE 2:4 NATIONAL INCOME AT MARKET PRICES, CHANGE & % CHANGE
NEW ZEALAND, 1938-1976

	MILLIONS 1984 DOLLARS-					
		PR.	--INCREASE---		---DECREASE---	
	TOTAL	TOTAL	NO.	%	NO.	%
1938	7,212					
1939	7,327	7,212	116	1.60		
1940	7,595	7,327	268	3.65		
1941	7,826	7,595	231	3.05		
1942	8,940	7,826	1,114	14.23		
1943	9,803	8,940	863	9.65		
1944	9,523	9,803			-280	-2.86
1945	8,936	9,523			-587	-6.17
1946	11,517	8,936	2,581	28.88		
1947	11,715	11,517	198	1.72		
1948	10,904	11,715			-811	-6.92
1949	12,098	10,904	1,194	10.95		
1950	14,643	12,098	2,545	21.04		
1951	13,591	14,643			-1,052	-7.18
1952	13,221	13,591			-370	-2.72
1953	14,229	13,221	1,008	7.63		
1954	14,751	14,229	522	3.67		
1955	15,207	14,751	456	3.09		
1956	15,332	15,207	125	0.82		
1957	16,064	15,332	732	4.78		
1958	16,016	16,064			-48	-0.30
1959	16,612	16,016	596	3.72		
1960	17,723	16,612	1,112	6.69		
1961	17,968	17,723	245	1.38		
1962	18,781	17,968	813	4.53		
1963	20,208	18,781	1,427	7.60		
1964	21,381	20,208	1,173	5.80		
1965	22,325	21,381	944	4.41		
1966	22,508	22,325	183	0.82		
1967	22,021	22,508			-486	-2.16
1968	22,296	22,021	275	1.25		
1969	23,447	22,296	1,151	5.16		
1970	25,259	23,447	1,812	7.73		
1971	26,853	25,259	1,593	6.31		
1972	29,304	26,853	2,452	9.13		
1973	31,296	29,304	1,992	6.80		
1974	30,634	31,296			-662	-2.11
1975	30,993	30,634	359	1.17		
1976	31,154	30,993	161	0.52		

TABLE 2:5 GROSS NATIONAL PRODUCT: CHANGE & % CHANGE
NEW ZEALAND, 1938-1976

	MILLIONS 1984 DOLLARS-					
		PR.	--INCREASE---		---DECREASE---	
	TOTAL	TOTAL	NO.	%	NO.	%
1938	7,772					
1939	7,898	7,772	127	1.63		
1940	8,142	7,898	243	3.08		
1941	8,351	8,142	209	2.57		
1942	9,479	8,351	1,128	13.51		
1943	10,356	9,479	877	9.25		
1944	10,093	10,356			-263	-2.54
1945	9,526	10,093			-567	-5.62
1946	12,210	9,526	2,684	28.18		
1947	12,464	12,210	254	2.08		
1948	11,667	12,464			-797	-6.40
1949	12,919	11,667	1,252	10.73		
1950	15,510	12,919	2,592	20.06		
1951	14,450	15,510			-1,060	-6.84
1952	14,113	14,450			-336	-2.33
1953	15,170	14,113	1,057	7.49		
1954	15,787	15,170	617	4.07		
1955	16,302	15,787	515	3.26		
1956	16,502	16,302	200	1.23		
1957	17,303	16,502	801	4.85		
1958	17,264	17,303			-40	-0.23
1959	17,828	17,264	564	3.27		
1960	19,053	17,828	1,226	6.88		
1961	19,406	19,053	352	1.85		
1962	20,285	19,406	879	4.53		
1963	21,772	20,285	1,487	7.33		
1964	23,004	21,772	1,231	5.66		
1965	24,041	23,004	1,038	4.51		
1966	24,346	24,041	304	1.27		
1967	23,866	24,346			-480	-1.97
1968	24,143	23,866	277	1.16		
1969	25,367	24,143	1,224	5.07		
1970	27,441	25,367	2,074	8.18		
1971	28,938	27,441	1,497	5.45		
1972	31,465	28,938	2,527	8.73		
1973	33,682	31,465	2,216	7.04		
1974	32,990	33,682			-692	-2.05
1975	33,251	32,990	260	0.79		
1976	33,308	33,251	58	0.17		

TABLE 2:6 NIFC.- AVERAGE, CONSTANT & ACTUAL GROWTH RATE COMPARISONS
NEW ZEALAND, 1926-1983 (LINKED REVISED SERIES)

	MILLIONS NOMINAL DOLLARS	CONS' PRICE INDEX	----MILLIONS----- --1984 DOLLARS--- TOTAL	PR.TOTAL	-----CHANGE----- ABSOLUTE	%	AVERAGE GROWTH RATE %	DEVIATION FROM AVERAGE	CUM.GROWTH AT 3.362% ANNUALLY
1926	308	139	4,780						4,780
1927	308	138	4,814	4,780	34	0.71	2.78	-2.07	4,941
1928	337	138	5,267	4,814	453	9.42	2.78	6.64	5,107
1929	353	138	5,518	5,267	251	4.76	2.78	1.98	5,279
1930	342	135	5,464	5,518	-54	-0.97	2.78	-3.75	5,456
1931	305	125	5,263	5,464	-201	-3.68	2.78	-6.46	5,639
1932	271	115	5,083	5,263	-180	-3.42	2.78	-6.20	5,829
1933	260	109	5,145	5,083	62	1.22	2.78	-1.56	6,025
1934	295	111	5,733	5,145	588	11.42	2.78	8.64	6,228
1935	305	115	5,721	5,733	-12	-0.21	2.78	-2.99	6,437
1936	336	119	6,090	5,721	369	6.46	2.78	3.68	6,653
1937	396	127	6,726	6,090	636	10.44	2.78	7.66	6,877
1938	390	131	6,422	6,726	-304	-4.53	2.78	-7.31	7,108
1939	422	136	6,693	6,422	271	4.22	2.78	1.44	7,347
1940	461	142	7,003	6,693	310	4.63	2.78	1.85	7,594
1941	505	148	7,360	7,003	357	5.10	2.78	2.32	7,849
1942	583	152	8,273	7,360	913	12.41	2.78	9.63	8,113
1943	652	156	9,015	8,273	742	8.97	2.78	6.19	8,386
1944	658	159	8,926	9,015	-89	-0.98	2.78	-3.76	8,668
1945	694	161	9,298	8,926	372	4.17	2.78	1.39	8,960
1946	737	162	9,813	9,298	515	5.54	2.78	2.76	9,261
1947	828	167	10,695	9,813	882	8.98	2.78	6.20	9,572
1948	845	181	10,070	10,695	-625	-5.84	2.78	-8.62	9,894
1949	961	184	11,266	10,070	1,196	11.87	2.78	9.09	10,227
1950	1,225	194	13,620	11,266	2,354	20.90	2.78	18.12	10,570
1951	1,250	216	12,483	13,620	-1,137	-8.35	2.78	-11.13	10,926
1952	1,317	232	12,245	12,483	-238	-1.91	2.78	-4.69	11,293
1953	1,471	243	13,057	12,245	812	6.63	2.78	3.85	11,673
1954	1,603	254	13,613	13,057	556	4.26	2.78	1.48	12,065

TABLE 2:6 NIFC.- AVERAGE, CONSTANT & ACTUAL GROWTH RATE COMPARISONS
NEW ZEALAND, 1926-1983 (LINKED REVISED SERIES)

	MILLIONS NOMINAL DOLLARS	CONS' PRICE INDEX	----MILLIONS----- --1984 DOLLARS--- TOTAL	PR.TOTAL	-----CHANGE----- ABSOLUTE	%	AVERAGE GROWTH RATE %	DEVIATION FROM AVERAGE	CUM.GROWTH AT 3.362% ANNUALLY
1955	1,688	260	14,004	13,613	391	2.87	2.78	0.09	12,471
1956	1,773	269	14,217	14,004	213	1.52	2.78	-1.26	12,890
1957	1,894	275	14,856	14,217	639	4.49	2.78	1.71	13,323
1958	1,950	287	14,656	14,856	-200	-1.35	2.78	-4.13	13,771
1959	2,103	298	15,222	14,656	566	3.86	2.78	1.08	14,234
1960	2,270	300	16,321	15,222	1,099	7.22	2.78	4.44	14,713
1961	2,345	306	16,530	16,321	209	1.28	2.78	-1.50	15,208
1962	2,536	314	17,421	16,530	891	5.39	2.78	2.61	15,719
1963	2,775	320	18,705	17,421	1,284	7.37	2.78	4.59	16,247
1964	3,040	331	19,811	18,705	1,106	5.91	2.78	3.13	16,794
1965	3,301	343	20,759	19,811	948	4.78	2.78	2.00	17,358
1966	3,412	352	20,908	20,759	149	0.72	2.78	-2.06	17,942
1967	3,513	373	20,315	20,908	-593	-2.84	2.78	-5.62	18,545
1968	3,697	389	20,500	20,315	185	0.91	2.78	-1.87	19,168
1969	4,097	409	21,607	20,500	1,107	5.40	2.78	2.62	19,813
1970	4,684	435	23,226	21,607	1,619	7.49	2.78	4.71	20,479
1971	5,540	481	24,844	23,226	1,618	6.96	2.78	4.18	21,167
1972	6,481	514	27,198	24,844	2,354	9.47	2.78	6.69	21,879
1973	7,514	556	29,151	27,198	1,953	7.18	2.78	4.40	22,615
1974	8,184	618	28,565	29,151	-586	-2.01	2.78	-4.79	23,375
1975	9,541	708	29,068	28,565	503	1.76	2.78	-1.02	24,161
1976	11,149	828	29,044	29,068	-24	-0.08	2.78	-2.86	24,973
1977	12,490	947	28,449	29,044	-595	-2.05	2.78	-4.83	25,813
1978	14,510	1,060	29,526	28,449	1,077	3.79	2.78	1.01	26,681
1979	17,392	1,206	31,107	29,526	1,581	5.35	2.78	2.57	27,578
1980	19,977	1,413	30,496	31,107	-611	-1.97	2.78	-4.75	28,505
1981	23,785	1,631	31,456	30,496	960	3.15	2.78	0.37	29,463
1982	26,563	1,893	30,268	31,456	-1,188	-3.78	2.78	-6.56	30,454
1983	27,779	2,032	29,488	30,268	-780	-2.58	2.78	-5.36	31,477

TABLE 2:7 NIMP.- AVERAGE, CONSTANT & ACTUAL GROWTH RATE COMPARISONS
NEW ZEALAND, 1926-1983 (LINKED REVISED SERIES)

	MILLIONS NOMINAL DOLLARS	CONS' PRICE INDEX	----MILLIONS----- --1984 TOTAL	DOLLARS--- PR.TOTAL	-----CHANGE------ ABSOLUTE	%	AVERAGE GROWTH RATE %	DEVIATION FROM AVERAGE	CUM. GROWTH AT 3.372% ANNUALLY
1926	336	139	5,214						5,212
1927	337	138	5,267	5,214	53	1.03	2.91	-1.88	5,388
1928	366	138	5,721	5,267	454	8.61	2.91	5.70	5,569
1929	384	138	6,002	5,721	281	4.91	2.91	2.00	5,757
1930	376	135	6,008	6,002	6	0.09	2.91	-2.82	5,951
1931	336	125	5,798	6,008	-210	-3.50	2.91	-6.41	6,152
1932	298	115	5,589	5,798	-209	-3.60	2.91	-6.51	6,359
1933	287	109	5,679	5,589	90	1.62	2.91	-1.29	6,574
1934	327	111	6,354	5,679	675	11.89	2.91	8.98	6,796
1935	340	115	6,377	6,354	23	0.37	2.91	-2.54	7,025
1936	373	119	6,761	6,377	384	6.02	2.91	3.11	7,262
1937	432	127	7,337	6,761	576	8.52	2.91	5.61	7,506
1938	430	131	7,080	7,337	-257	-3.50	2.91	-6.41	7,760
1939	460	136	7,296	7,080	216	3.05	2.91	0.14	8,021
1940	500	142	7,595	7,296	299	4.10	2.91	1.19	8,292
1941	544	148	7,928	7,595	333	4.39	2.91	1.48	8,571
1942	632	152	8,969	7,928	1,041	13.13	2.91	10.22	8,860
1943	709	156	9,803	8,969	834	9.30	2.91	6.39	9,159
1944	717	159	9,727	9,803	-76	-0.78	2.91	-3.69	9,468
1945	755	161	10,115	9,727	388	3.99	2.91	1.08	9,787
1946	799	162	10,639	10,115	524	5.18	2.91	2.27	10,117
1947	906	167	11,702	10,639	1,063	9.99	2.91	7.08	10,458
1948	914	181	10,892	11,702	-810	-6.92	2.91	-9.83	10,811
1949	1,031	184	12,086	10,892	1,194	10.96	2.91	8.05	11,176
1950	1,318	194	14,654	12,086	2,568	21.25	2.91	18.34	11,552
1951	1,360	216	13,581	14,654	-1,073	-7.32	2.91	-10.23	11,942
1952	1,421	232	13,212	13,581	-369	-2.72	2.91	-5.63	12,345
1953	1,575	243	13,981	13,212	769	5.82	2.91	2.91	12,761
1954	1,738	254	14,759	13,981	778	5.57	2.91	2.66	13,191

TABLE 2:7 NIMP.- AVERAGE, CONSTANT & ACTUAL GROWTH RATE COMPARISONS
NEW ZEALAND, 1926-1983 (LINKED REVISED SERIES)

	MILLIONS NOMINAL DOLLARS	CONS' PRICE INDEX	----MILLIONS----- --1984 DOLLARS--- TOTAL	PR.TOTAL	-----CHANGE------- ABSOLUTE	%	AVERAGE GROWTH RATE %	DEVIATION FROM AVERAGE	CUM. GROWTH AT 3.372% ANNUALLY
1955	1,833	260	15,207	14,759	448	3.03	2.91	0.12	13,636
1956	1,915	269	15,356	15,207	149	0.98	2.91	-1.93	14,096
1957	2,050	275	16,079	15,356	723	4.71	2.91	1.80	14,571
1958	2,131	287	16,016	16,079	-63	-0.39	2.91	-3.30	15,063
1959	2,294	298	16,605	16,016	589	3.67	2.91	0.76	15,570
1960	2,465	300	17,723	16,605	1,118	6.74	2.91	3.83	16,095
1961	2,548	306	17,961	17,723	238	1.34	2.91	-1.57	16,638
1962	2,734	314	18,781	17,961	820	4.57	2.91	1.66	17,199
1963	2,999	320	20,215	18,781	1,434	7.64	2.91	4.73	17,779
1964	3,281	331	21,381	20,215	1,166	5.77	2.91	2.86	18,379
1965	3,550	343	22,325	21,381	944	4.41	2.91	1.50	18,998
1966	3,673	352	22,508	22,325	183	0.82	2.91	-2.09	19,639
1967	3,808	373	22,021	22,508	-487	-2.16	2.91	-5.07	20,301
1968	4,022	389	22,302	22,021	281	1.28	2.91	-1.63	20,986
1969	4,445	409	23,442	22,302	1,140	5.11	2.91	2.20	21,694
1970	5,094	435	25,259	23,442	1,817	7.75	2.91	4.84	22,425
1971	5,988	481	26,853	25,259	1,594	6.31	2.91	3.40	23,181
1972	6,983	514	29,304	26,853	2,451	9.13	2.91	6.22	23,963
1973	8,066	556	31,292	29,304	1,988	6.78	2.91	3.87	24,771
1974	8,777	618	30,634	31,292	-658	-2.10	2.91	-5.01	25,606
1975	10,173	708	30,993	30,634	359	1.17	2.91	-1.74	26,470
1976	12,443	828	32,415	30,993	1,422	4.59	2.91	1.68	27,362
1977	13,682	947	31,164	32,415	-1,251	-3.86	2.91	-6.77	28,285
1978	15,791	1,060	32,133	31,164	969	3.11	2.91	0.20	29,239
1979	19,034	1,206	34,043	32,133	1,910	5.95	2.91	3.04	30,224
1980	21,965	1,413	33,530	34,043	-513	-1.51	2.91	-4.42	31,244
1981	26,099	1,631	34,516	33,530	986	2.94	2.91	0.03	32,297
1982	29,229	1,893	33,305	34,516	-1,211	-3.51	2.91	-6.42	33,386
1983	30,914	2,032	32,816	33,305	-489	-1.47	2.91	-4.38	34,512

TABLE 2.8 GNP.- AVERAGE, CONSTANT & ACTUAL GROWTH RATES
NEW ZEALAND, 1938-1976

	MILLIONS NOMINAL DOLLARS	CONS' PRICE INDEX	----MILLIONS----- --1984 DOLLARS--- TOTAL	PR.TOTAL	-----CHANGE------ ABSOLUTE	%	AVERAGE GROWTH RATE %	DEVIATION FROM AVERAGE	CUM. GROWTH AT 4.07% ANNUALLY
1938	464	131	7,640						7,637
1939	499	136	7,914	7,640	274	3.59	4.07	-0.48	7,641
1940	538	142	8,172	7,914	258	3.26	4.07	-0.81	7,645
1941	582	148	8,482	8,172	310	3.80	4.07	-0.27	7,649
1942	670	152	9,508	8,482	1,026	12.09	4.07	8.02	7,653
1943	749	156	10,356	9,508	848	8.92	4.07	4.85	7,657
1944	759	159	10,297	10,356	-59	-0.57	4.07	-4.64	7,661
1945	799	161	10,705	10,297	408	3.96	4.07	-0.11	7,665
1946	851	162	11,331	10,705	626	5.85	4.07	1.78	7,670
1947	964	167	12,451	11,331	1,120	9.89	4.07	5.82	7,674
1948	978	181	11,655	12,451	-796	-6.39	4.07	-10.46	7,678
1949	1,101	184	12,907	11,655	1,252	10.74	4.07	6.67	7,682
1950	1,396	194	15,522	12,907	2,615	20.26	4.07	16.19	7,686
1951	1,446	216	14,440	15,522	-1,082	-6.97	4.07	-11.04	7,690
1952	1,517	232	14,104	14,440	-336	-2.33	4.07	-6.40	7,694
1953	1,681	243	14,921	14,104	817	5.80	4.07	1.73	7,698
1954	1,860	254	15,795	14,921	874	5.86	4.07	1.79	7,702
1955	1,965	260	16,302	15,795	507	3.21	4.07	-0.86	7,706
1956	2,061	269	16,526	16,302	224	1.38	4.07	-2.69	7,710
1957	2,208	275	17,319	16,526	793	4.80	4.07	0.73	7,714
1958	2,297	287	17,264	17,319	-55	-0.32	4.07	-4.39	7,718
1959	2,463	298	17,828	17,264	564	3.27	4.07	-0.80	7,722

TABLE 2.8 GNP.- AVERAGE, CONSTANT & ACTUAL GROWTH RATES
NEW ZEALAND, 1938-1976

	MILLIONS NOMINAL DOLLARS	CONS' PRICE INDEX	----MILLIONS----- --1984 DOLLARS--- TOTAL	PR.TOTAL	-----CHANGE------ ABSOLUTE	%	AVERAGE GROWTH RATE %	DEVIATION FROM AVERAGE	CUM. GROWTH AT 4.07% ANNUALLY
1960	2,650	300	19,053	17,828	1,225	6.87	4.07	2.80	7,727
1961	2,752	306	19,399	19,053	346	1.82	4.07	-2.25	7,731
1962	2,953	314	20,285	19,399	886	4.57	4.07	0.50	7,735
1963	3,231	320	21,779	20,285	1,494	7.36	4.07	3.29	7,739
1964	3,530	331	23,004	21,779	1,225	5.62	4.07	1.55	7,743
1965	3,823	343	24,041	22,004	2,037	9.26	4.07	5.19	7,747
1966	3,973	352	24,346	24,041	305	1.27	4.07	-2.80	7,751
1967	4,128	373	23,872	24,346	-474	-1.95	4.07	-6.02	7,755
1968	4,355	389	24,148	23,872	276	1.16	4.07	-2.91	7,759
1969	4,809	409	25,362	24,148	1,214	5.03	4.07	0.96	7,763
1970	5,534	435	27,441	25,362	2,079	8.20	4.07	4.13	7,767
1971	6,452	481	28,933	27,441	1,492	5.44	4.07	1.37	7,771
1972	7,498	514	31,465	28,933	2,532	8.75	4.07	4.68	7,775
1973	8,682	556	33,682	31,465	2,217	7.05	4.07	2.98	7,779
1974	10,035	618	35,025	33,682	1,343	3.99	4.07	-0.08	7,784
1975	11,504	708	35,048	35,025	23	0.07	4.07	-4.00	7,788
1976	13,840	828	36,054	35,048	1,006	2.87	4.07	-1.20	7,792

TABLE 2:9 ADJUSTED GROSS NATIONAL PRODUCT
NEW ZEALAND, 1938-1976

	-MILLIONS NOMINAL DOLLARS--			ADJUSTED	CONS' PRICE	MILLIONS 1984
	G.N.P	C	N	G.N.P	INDEX	DOLLARS
1938	472	13	34	425	131	6,998
1939	498	13	36	449	136	7,121
1940	536	15	36	485	142	7,367
1941	573	15	36	522	148	7,608
1942	668	16	38	614	152	8,713
1943	749	17	40	692	156	9,568
1944	744	18	42	684	159	9,279
1945	711	19	44	648	161	8,682
1946	917	20	52	845	162	11,251
1947	965	22	58	885	167	11,431
1948	979	23	64	892	181	10,630
1949	1,102	25	70	1,007	184	11,805
1950	1,395	27	78	1,290	194	14,343
1951	1,447	30	86	1,331	216	13,292
1952	1,518	33	96	1,389	232	12,914
1953	1,709	37	106	1,566	243	13,901
1954	1,859	40	122	1,697	254	14,411
1955	1,965	43	132	1,790	260	14,850
1956	2,058	44	146	1,868	269	14,979
1957	2,206	48	158	2,000	275	15,687
1958	2,297	50	166	2,081	287	15,640
1959	2,463	51	168	2,244	298	16,243
1960	2,650	51	185	2,414	300	17,357
1961	2,753	60	204	2,489	306	17,545
1962	2,953	81	219	2,653	314	18,225
1963	3,230	86	232	2,912	320	19,629
1964	3,530	96	249	3,185	331	20,755
1965	3,823	109	273	3,441	343	21,639
1966	3,973	114	300	3,559	352	21,809
1967	4,127	124	319	3,684	373	21,304
1968	4,354	130	333	3,891	389	21,576
1969	4,810	140	364	4,306	409	22,709
1970	5,534	156	440	4,938	435	24,486
1971	6,453	169	465	5,819	481	26,095
1972	7,498	201	515	6,782	514	28,461
1973	8,682	217	615	7,850	556	30,454
1974	9,452	253	675	8,524	618	29,751
1975	10,914	301	741	9,872	708	30,076
1976	12,786	341	827	11,618	828	30,266

TABLE 2:10 ADJUSTED GNP., CHANGE & % CHANGE
NEW ZEALAND, 1938-1976

	--MILLIONS CONSTANT (1984) DOLLARS---					
		PR.	--INCREASE---		---DECREASE---	
	TOTAL	TOTAL	NO.	%	NO.	%
1938	6,998					
1939	7,121	6,998	123	1.76		
1940	7,367	7,121	246	3.45		
1941	7,608	7,367	241	3.27		
1942	8,713	7,608	1,105	14.52		
1943	9,568	8,713	855	9.81		
1944	9,279	9,568			-289	-3.02
1945	8,682	9,279			-597	-6.43
1946	11,251	8,682	2,569	29.59		
1947	11,431	11,251	180	1.60		
1948	10,630	11,431			-801	-7.01
1949	11,805	10,630	1,175	11.05		
1950	14,343	11,805	2,538	21.50		
1951	13,292	14,343			-1,051	-7.33
1952	12,914	13,292			-378	-2.84
1953	13,901	12,914	987	7.64		
1954	14,411	13,901	510	3.67		
1955	14,850	14,411	439	3.05		
1956	14,979	14,850	129	0.87		
1957	15,687	14,979	708	4.73		
1958	15,640	15,687			-47	-0.30
1959	16,243	15,640	603	3.86		
1960	17,357	16,243	1,114	6.86		
1961	17,545	17,357	188	1.08		
1962	18,225	17,545	680	3.88		
1963	19,629	18,226	1,403	7.70		
1964	20,755	19,629	1,126	5.74		
1965	21,639	20,755	884	4.26		
1966	21,803	21,639	164	0.76		
1967	21,304	21,803			-499	-2.29
1968	21,576	21,304	272	1.28		
1969	22,709	21,576	1,133	5.25		
1970	24,486	22,709	1,777	7.83		
1971	26,095	24,486	1,609	6.57		
1972	28,461	26,095	2,366	9.07		
1973	30,454	28,461	1,993	7.00		
1974	29,751	30,454			-703	-2.31
1975	30,076	29,751	325	1.09		
1976	30,266	30,076	190	0.63		

TABLE 2:10(a) ADJUSTED GNP., ANNUAL, AVERAGE GROWTH RATES
NEW ZEALAND, 1938-1976

	---ADJ. GNP.--- TOTAL	PR. TOTAL	ANNUAL GROWTH	LONG BOOM AVERAGE	ANNUAL +-BOOM AVERAGE	CUM. GROWTH 4.21%
1938	6,998					6,998
1939	7,121	6,998	1.76	4.21	-2.45	7,293
1940	7,367	7,121	3.45	4.21	-0.76	7,600
1941	7,608	7,367	3.27	4.21	-0.94	7,920
1942	8,713	7,608	14.52	4.21	10.31	8,253
1943	9,568	8,713	9.81	4.21	5.60	8,600
1944	9,279	9,568	-3.02	4.21	-7.23	8,963
1945	8,682	9,279	-6.43	4.21	-10.64	9,340
1946	11,251	8,682	29.59	4.21	25.38	9,733
1947	11,431	11,251	1.60	4.21	-2.61	10,143
1948	10,630	11,431	-7.01	4.21	-11.22	10,570
1949	11,805	10,630	11.05	4.21	6.84	11,015
1950	14,343	11,805	21.50	4.21	17.29	11,479
1951	13,292	14,343	-7.33	4.21	-11.54	11,962
1952	12,914	13,292	-2.84	4.21	-7.05	12,465
1953	13,901	12,914	7.64	4.21	3.43	12,990
1954	14,411	13,901	3.67	4.21	-0.54	13,537
1955	14,850	14,411	3.05	4.21	-1.16	14,107
1956	14,979	14,850	0.87	4.21	-3.34	14,701
1957	15,687	14,979	4.73	4.21	0.52	15,320
1958	15,640	15,687	-0.30	4.21	-4.51	15,965
1959	16,243	15,640	3.86	4.21	-0.35	16,637
1960	17,357	16,243	6.86	4.21	2.65	17,337
1961	17,545	17,357	1.08	4.21	-3.13	18,067
1962	18,225	17,545	3.88	4.21	-0.33	18,828
1963	19,629	18,226	7.70	4.21	3.49	19,620
1964	20,755	19,629	5.74	4.21	1.53	20,446
1965	21,639	20,755	4.26	4.21	0.05	21,307
1966	21,803	21,639	0.76	4.21	-3.45	22,204
1967	21,304	21,803	-2.29	4.21	-6.50	23,139
1968	21,576	21,304	1.28	4.21	-2.93	24,113
1969	22,709	21,576	5.25	4.21	1.04	25,128
1970	24,486	22,709	7.83	4.21	3.62	26,186
1971	26,095	24,486	6.57	4.21	2.36	27,289
1972	28,461	26,095	9.07	4.21	4.86	28,438
1973	30,454	28,461	7.00	4.21	2.79	29,635
1974	29,751	30,454	-2.31	4.21	-6.52	30,882
1975	30,076	29,751	1.09	4.21	-3.12	32,183
1976	30,266	30,076	0.63	4.21	-3.58	33,538

TABLE 2:11 GROSS DOMESTIC PRODUCT, NOMINAL AND CONSTANT DOLLARS
NEW ZEALAND, 1948-1983

	MILLIONS NOMINAL DOLLARS	CONSUMER PRICE INDEX	MILLIONS CONSTANT 1984 DOLLARS
1948	990	181	11,798
1949	1,107	184	12,977
1950	1,408	194	15,655
1951	1,508	216	15,059
1952	1,525	232	14,179
1953	1,606	243	14,256
1954	1,927	254	16,364
1955	2,022	260	16,775
1956	2,085	269	16,719
1957	2,294	275	17,993
1958	2,329	287	17,504
1959	2,374	298	17,184
1960	2,748	300	19,758
1961	2,872	306	20,245
1962	3,114	314	21,391
1963	3,397	320	22,898
1964	3,721	331	24,248
1965	4,012	343	25,230
1966	4,190	352	25,676
1967	4,375	373	25,300
1968	4,642	389	25,740
1969	5,133	409	27,071
1970	5,832	435	28,919
1971	6,863	481	30,776
1972	7,892	514	33,119
1973	9,135	556	35,439
1974	10,028	618	35,001
1975	11,669	708	35,551
1976	14,105	828	36,745
1977	15,424	947	35,132
1978	17,510	1,060	35,631
1979	21,092	1,206	37,724
1980	24,464	1,413	37,345
1981	29,325	1,631	38,782
1982	32,368	1,893	36,882
1983	34,934	2,032	37,083
1984	40,978	2,157	40,978

TABLE 2:12 REAL" GDP., CHANGE & % CHANGE
NEW ZEALAND, 1948-1984

	MILLIONS 1984 DOLLARS-					
		PR.	--INCREASE---		---DECREASE---	
	TOTAL	TOTAL	NO.	%	NO.	%
1948	11,798					
1949	12,977	11,798	1,179	9.99		
1950	15,655	12,977	2,678	20.64		
1951	15,059	15,655			-596	-3.81
1952	14,179	15,059			-880	-5.84
1953	14,256	14,179	77	0.54		
1954	16,364	14,256	2,108	14.79		
1955	16,775	16,364	411	2.51		
1956	16,719	16,775			-56	-0.33
1957	17,993	16,719	1,274	7.62		
1958	17,504	17,993			-489	-2.72
1959	17,184	17,504			-320	-1.83
1960	19,758	17,184	2,574	14.98		
1961	20,245	19,758	487	2.46		
1962	21,391	20,245	1,146	5.66		
1963	22,898	21,391	1,507	7.05		
1964	24,248	22,898	1,350	5.90		
1965	25,230	24,248	982	4.05		
1966	25,676	25,230	446	1.77		
1967	25,300	25,676			-376	-1.46
1968	25,740	25,300	440	1.74		
1969	27,071	25,740	1,331	5.17		
1970	28,919	27,071	1,848	6.83		
1971	30,776	28,919	1,857	6.42		
1972	33,119	30,776	2,343	7.61		
1973	35,439	33,119	2,320	7.01		
1974	35,001	35,439			-438	-1.24
1975	35,551	35,001	550	1.57		
1976	36,745	35,551	1,194	3.36		
1977	35,132	36,745			-1,613	-4.39
1978	35,631	35,132	499	1.42		
1979	37,724	35,631	2,093	5.87		
1980	37,345	37,724			-379	-1.00
1981	38,782	37,345	1,437	3.85		
1982	36,882	38,782			-1,900	-4.90
1983	37,083	36,882	201	0.54		
1984	40,978	37,083	3,895	10.50		

TABLE 2:13 REAL" GDP., ACTUAL, CONSTANT AND AVERAGE GROWTH RATES
NEW ZEALAND, 1948-1984

	-MILLIONS 1984 DOLLARS-				AVERAGE	DEVIATION	CUM. GROWTH	CUM. GROWTH RATE
		PR.	-----CHANGE----		GROWTH	FROM	3.519 %	4.67% ANNUALLY
	TOTAL	TOTAL	NO.	%	RATE %	AVERAGE	ANNUALLY	(AVG. FOR 1948-73)
1948	11,798						11,798	11,798
1949	12,977	11,798	1,179	9.99	3.68	6.31	12,213	12,349
1950	15,655	12,977	2,678	20.64	3.68	16.96	12,643	12,926
1951	15,059	15,655	-596	-3.81	3.68	-7.49	13,088	13,529
1952	14,179	15,059	-880	-5.84	3.68	-9.52	13,548	14,161
1953	14,256	14,179	77	0.54	3.68	-3.14	14,025	14,822
1954	16,364	14,256	2,108	14.79	3.68	11.11	14,519	15,515
1955	16,775	16,364	411	2.51	3.68	-1.17	15,030	16,239
1956	16,719	16,775	-56	-0.33	3.68	-4.01	15,559	16,998
1957	17,993	16,719	1,274	7.62	3.68	3.94	16,106	17,791
1958	17,504	17,993	-489	-2.72	3.68	-6.40	16,673	18,622
1959	17,184	17,504	-320	-1.83	3.68	-5.51	17,260	19,492
1960	19,758	17,184	2,574	14.98	3.68	11.30	17,867	20,402
1961	20,245	19,758	487	2.46	3.68	-1.22	18,496	21,355
1962	21,391	20,245	1,146	5.66	3.68	1.98	19,146	22,352
1963	22,898	21,391	1,507	7.05	3.68	3.37	19,820	23,396
1964	24,248	22,898	1,350	5.90	3.68	2.22	20,518	24,489
1965	25,230	24,248	982	4.05	3.68	0.37	21,240	25,632
1966	25,676	25,230	446	1.77	3.68	-1.91	21,987	26,829
1967	25,300	25,676	-376	-1.46	3.68	-5.14	22,761	28,082
1968	25,740	25,300	440	1.74	3.68	-1.94	23,562	29,394
1969	27,071	25,740	1,331	5.17	3.68	1.49	24,391	30,766

TABLE 2:13 REAL" GDP., ACTUAL, CONSTANT AND AVERAGE GROWTH RATES
NEW ZEALAND, 1948-1984

	-MILLIONS 1984 DOLLARS-		----CHANGE----		AVERAGE GROWTH	DEVIATION FROM	CUM. GROWTH 3.519 %	CUM. GROWTH RATE 4.67% ANNUALLY
	TOTAL	PR. TOTAL	NO.	%	RATE %	AVERAGE	ANNUALLY	(AVG. FOR 1948-73)
1970	28,919	27,071	1,848	6.83	3.68	3.15	25,249	32,203
1971	30,776	28,919	1,857	6.42	3.68	2.74	26,138	33,707
1972	33,119	30,776	2,343	7.61	3.68	3.93	27,058	35,281
1973	35,439	33,119	2,320	7.01	3.68	3.33	28,010	36,929
1974	35,001	35,439	-438	-1.24	3.68	-4.92	28,995	38,653
1975	35,551	35,001	550	1.57	3.68	-2.11	30,016	40,458
1976	36,745	35,551	1,194	3.36	3.68	-0.32	31,072	42,348
1977	35,132	36,745	-1,613	-4.39	3.68	-8.07	32,166	44,325
1978	35,631	35,132	499	1.42	3.68	-2.26	33,297	46,395
1979	37,724	35,631	2,093	5.87	3.68	2.19	34,469	48,562
1980	37,345	37,724	-379	-1.00	3.68	-4.68	35,682	50,830
1981	38,782	37,345	1,437	3.85	3.68	0.17	36,938	53,204
1982	36,882	38,782	-1,900	-4.90	3.68	-8.58	38,238	55,688
1983	37,083	36,882	201	0.54	3.68	-3.14	39,583	58,289
1984	40,978	37,083	3,895	10.50	3.68	6.82	40,976	61,011

APPENDIX 3. FACTORY PRODUCTION

FACTORY PRODUCTION

Factory Production data is collected through direct annual surveys of "factories". Only activities defined as factory production are surveyed but over time the term "factory" has been variously defined. Activities ruled out by a redefinition are no longer surveyed so that the relevant data are no longer available. Other activities, belatedly included as factory production are not available prior to the inclusion. To construct a consistent data set it is necessary to systematically adjust the data systematically against the redefinitions. All values for such activities must be excluded from calculations.

Our series begin in 1923, because in 1922 New Zealand statistics were brought into line with British conventions. Dressmaking and millinery, bespoke tailoring, tea blending and packing, the bottling of liquor, stone quarrying and crushing, asphalting and monumental masonry were excluded from factory production.

In 1931 Factory Production was again redefined to exclude the operations of tramways. Since 1951-52, and the advent of the New Zealand Standard Industrial

Classification system, the production of gas, the generation of electricity and the logging operations of sawmilling were deleted from factory production. Factories were redefined once more in 1971 when the United Nations Standard Industrial Classification Of All Economic Activities (1958) was adopted and the Motor Vehicle Repair Industry was excluded.

The results of Factory Production surveys are published as separate annual reports: "Statistics of Factory Production", "Statistics of Factory and Building Production" and "Statistics of Industrial Production". Some information is reproduced in a special chapter of the NZOYB. Data was collected from the specific annual reports because information in the NZOYB is not sufficiently detailed for our analysis.

"Factory Production" statistics report results at two distinct levels of aggregation, industrial divisions or branches ("sub-accounts") and the sector as a whole ("full accounts"). Some categories are only reported at the level of the sub-accounts and others only in the full accounts. To compile all the required data it is necessary to move backwards and forwards between these levels of aggregation.

The industrial classification system, the typology

of industrial branches and divisions, also changes over time. Thus in the sub-accounts, information is sometimes reported for a particular activity but for other periods data for that activity are consolidated in a larger industrial grouping.

Separate accounts for the motor vehicle repair industry were published only from 1956. For this reason it is not possible to exclude values for this industry from our calculations for the period 1923-55. Since 1970 motor vehicle repairs have been classed as a "distributive" activity, i.e. as part of the wholesale and retail trades, and surveyed by the Census of Distribution. The questions in the Factory Production survey are designed mainly to elucidate the annual volume of [new-] added-value. Those in the Census of Distribution are designed around annual stock turn-over. Thus the Census of Distribution does not report some items vital to our analysis: the value of fixed capital, other expenses of production, and so on. No compatible data are available for the industry from 1970. Since values can neither be obtained from 1970 nor excluded prior to 1956 it is impossible to neutralise the effects of the 1970 revision.

The logging operations of sawmilling pose similar problems with respect to the 1951 revision. It is

impossible to delete all values for the industry from the series and impossible to include them for the period after 1950. For this reason our series are not entirely consistent.

The Statistics Department has published an "Historical Summary" (a long run time series) which exclude logging operations back to 1930. This data is used, but it only covers gross aggregates. "Gross" in two senses: it only covers grand totals for the whole of Factory Production, and for principal categories (Establishments, Persons Engaged, Wages & Salaries, Raw Materials, Other Expenses and Plant & Premises). All of the detailed breakdowns necessary for this analysis are available only at the level of sub-categories i.e. in the sub-accounts. In all series shown in these appendices, "gross" aggregates exclude Logging from 1930 but attenuated aggregates include Logging for the period 1923-1950. In all data from 1951 Logging is excluded.

These inconsistencies are slight however. The entire industrial division, covering all of sawmilling and including a number of joinery operations (door and sash manufacture) engaged only 2777 persons in 1950. Only some small fraction of these can have been involved in the logging side of saw milling.

By contrast, the weight of the Motor Vehicle Repair Industry in the data set is substantial. Deleting the industry in 1970-71 reduces the number of establishments from 10,587 to 7,600, the number of persons engaged from 251,425 to 229,104 and the total value of production from 2.105 to 2.015 billion (current) dollars. Despite the fact that the Factory Production survey continues to 1974 we are forced to end our series in 1970.

With the exception of two years, 1948-49 and 1968-69, data was collected by direct survey from all establishments included in the definition. In 1948 staff shortages in the Department of Statistics prohibited a full survey. A sample survey was taken and the results used to estimate gross totals. Not all the variables required for our analysis were covered. Data for 1948 (1948/49) are therefore excluded from all Factory Production series. It is important to recognise that <u>any change in the level of activity in 1949 covers two years</u>, not one. Results for 1968 were also based on a sample survey. This time a full range of estimates was reported which are included in the series.

Factory production data is often revised later

independent of the reclassification of industries. Wherever possible our data is taken from the most recent report. Revised figures are given in "Historical Summaries", i.e. tables which give the results for a number of consecutive years. However, these revised long-run series are insufficiently detailed for our requirements. Additional information was therefore obtained from the original annual reports.

This does mean some inconsistency creeps into our data set. But the inaccuracy introduced is so slight it can be safely ignored, as demonstrated by the following concrete example. Making the data set commensurate from 1923 to 1970 requires that all the values for Tramways, Gas and Electricity are deleted. For this purpose the data is taken from the annual reports for some variables. These are then subtracted from the values in the historical summaries. Summaries give revised values which for some years differ slightly from those of the the annual reports for the same years. Any difference between the original and revised figures for Gas, Electricity and Tramways is not included in the deletion.

The separate identification of productive and non-productive workers provides another example. The

required information is again only available at the level of the sub-accounts which necessitates working simultaneously at the level of gross and industry totals on the one hand, and on the other between revised and non- (or less) revised data is necessary.

In a few cases, data is available for attenuated aggregates (Persons Engaged by Occupation, breakdowns of Other Productive Expenses, etc.) is reported for a number of consecutive years. These are neither Historical Summaries nor annually reported data which have been simply linked together. They are revisions of an intermediate type. Where these are available they have been used. Again these figures do not exactly match those in the annual reports for the same years because they are revised. But when aggregated to the level of the full accounts they do not match those of the historical summaries either, because they are less revised than those in the summaries.

Revisions of full account totals must involve some alteration at lower levels where much of our data is obtained. Indeed, it may be that the revision was occasioned by changes to precisely, and only, the sub-account data of interest to us. But our figures cannot be adjusted to match revisions of this type since since the basis on which they were made is not known. Their

overall effect is to narrow fluctuations. We suspect that this is precisely their aim. It is difficult to see what superior data source the Department of Statistics could bring to bear to improve the results of direct surveys years after they were taken.

Very slight inconsistencies probably appear because we subtract non-revised figures from revised ones. In the appendices which follow a complete account is given of the sources. The discrepancy at this level is "slight" in the sense that the figures will not always balance the way the an accountant might like. The average economist would not even notice it.

The Department of Statistics uses the Historical Summaries to adjust Factory Production data for the effects of redefinitions. These summaries are used where possible. Historical Summaries for annual figures date back to 1938. Prior to this official adjustments are only available at five-yearly intervals.

Most of the remaining inconsistency in our data set could be removed pending access to base level data. This is, however, prohibited by regulations concerning the disclosure of information:-" Section 18 of the Statistics Act 1955 prohibited the Department Of Statistics from releasing any information for

individual establishments. The main rules under which the Department operated in this connection were -

"(a) It is not a disclosure to publish the number of units, even down to one, as to the locality, industry, classification, or number of employees.

"(b) All statistics may be published for any industry, locality, or product represented by three or more units, provided that one or two units do not produce a very large proportion of the combined production of these units.

"(c) Figures relating to three units only are not to be published if it is known to the Department that two of the units, although separate legal organisations are in fact, controlled by substantially the same people.

"(d) The above rules may be disregarded in the case of one, two or three units if each of the units concerned gives express written consent to the publication of the statistics concerned." (Statistics of Industrial Production for the Production Year 1970-71, Government Statistician, Wellington, New Zealand).

This appendix details a "first cut" at making the data base consistent, by deleting values for Tramways, Gas and Electricity from the total figures. In Appendix 4 similar operations are performed to remove the values for Dairy Factories.

The appendix is divided into a number of sections. Each deals with a single gross aggregate; (A) Establishments, (B) Persons Engaged, (C) Salaries & Wages, (D) Raw Materials, (E) Other Productive Expenses and (F) Value of Production. All basic adjustments are made in each section. In the case of Establishments, Persons Engaged and Other Productive Expenses

additional breakdowns are given, either to enable a finer analysis later on, to illustrate points made in the main text or to overcome problems peculiar to the variable in question.

Each section begins with the official definition for the category, and identifies all data sources and problems of the particular case. A general discussion of the key concepts and relations in the factory production series can be found in chapter three of the main text, in the section "General Characteristics of the Factory Production Series".

Within sections the order and format of the tables are standardised as far as possible. MANUFACTURE as a table heading indicates raw data whereas FACTORY PRODUCTION, (in a few cases abbreviations may have been used) indicates that values for gas, electricity and tramways have been removed. "TOTAL" means the figure for the particular year and "PR. TOTAL" is the figure for the previous year. The term "INCREASE (or DECREASE) ABSOLUTE" (or "NO.") refers to the difference between TOTAL and PR. TOTAL in raw numbers whilst "INCREASE (DECREASE) %" is the absolute difference between TOTAL & PR. TOTAL expressed as a percentage of the value for PR. TOTAL (((total-pr. total)*100)/pr. total).

APPENDIX 3:A ESTABLISHMENTS

A. ESTABLISHMENTS

"For the purpose of these statistics an Establishment is a Factory registered under the Factories Act 1946." (Statistics of Industrial Production for the Production Year 1970-71, Government Statistician, Wellington, New Zealand.)

An Establishment is a factory and the boundaries of a particular factory are defined in space and product. Legal (formal ownership) or real control does not enter into the identification of distinct establishments. One company may own a number of establishments. A single, complex plant which carries out a number of subsidiary (or even subordinate) operations in different buildings may be classified as several distinct and separate establishments although they constitute a single accounting unit. The number of establishments therefore exceeds the number of independent institutional centres (companies or firms) of organisation or control.

Aggregates for the sector as a whole are taken from the following sources: for 1923 to 1930: New Zealand.- Statistics of Factory Production, 1930-31, p21, "Factory Production - Size of Establishment"; for

1931 to 1935: ibid, p22 of the 1935-36 Report; for 1936 to 1940: New Zealand.- Statistics of Factory and Building Production, 1940-41, p21, "Factory Production.- Size Of Establishment On Basis Of Number Of Persons Engaged, 1936-37 to 1940-41"; for 1941 to 1943: New Zealand.- Statistics of Factory Production, 1944-45 & 1945-46, p48, "Factory Production - Size Of Establishments On Basis Of Number Of Persons Engaged, 1941-42 to 1945-46"; for 1944 to 1949: New Zealand.- Statistics Of Factory Production, 1951-52, p26, "Factories: Size Of Establishment According To Number Of Persons Engaged"; for the year 1950: Statistics Of Industrial Production, 1955-56, p20, "Table 14: Factories. Size Of Establishments According To Number Of Persons Engaged, 1949-50 to 1955-56"; for 1951 to 1958: ibid, p 23 of the 1961-62 Report; for 1959 to 1970: ibid, p 25, of the 1970-71 Report.

The sources for data on the Gas, Electricity and Tramways industries are as follows: 1923: Statistics Of Factory Production, 1923-24, p1; for 1924 to 1930: ibid, 1930-31 Report, p1; for 1931 to 1938: Statistics Of Factory & Building Production, 1939-40, p2; for 1939 to 1945: Statistics Of Factory Production, 1944-45 & 1945-46, p6; for 1946 & 1947: ibid, 1946-47 & 1947-48 Report, p2; for 1949 & 1950: ibid, 1950-51 Report, p15.

TABLE 3:1 NUMBER OF ESTABLISHMENTS
N.Z. FACTORY PRODUCTION, 1923-1970

	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923	4,461	51	85	10	4,315
1924	4,547	50	89	9	4,399
1925	4,791	48	103	9	4,631
1926	5,088	46	102	10	4,930
1927	5,166	46	98	10	5,012
1928	5,136	46	96	10	4,984
1929	5,177	46	97	9	5,025
1930	5,203	46	101	9	5,047
1931	4,969	46	100	0	4,823
1932	4,993	46	99	0	4,848
1933	5,028	46	98	0	4,884
1934	5,270	46	99	0	5,125
1935	5,536	46	98	0	5,392
1936	5,728	46	98	0	5,584
1937	5,924	45	99	0	5,780
1938	6,146	44	100	0	6,002
1939	6,342	44	99	0	6,199
1940	6,395	44	98	0	6,253
1941	6,367	42	98	0	6,227
1942	6,127	42	98	0	5,987
1943	6,202	42	98	0	6,062
1944	6,485	44	101	0	6,340
1945	6,991	44	100	0	6,847
1946	7,642	44	100	0	7,498
1947	7,966	44	97	0	7,825
1949	8,027	44	96	0	7,887
1950	8,318	44	96	0	8,178
1951	8,546	0	0	0	8,546
1952	8,511	0	0	0	8,511
1953	8,377	0	0	0	8,377
1954	8,366	0	0	0	8,366
1955	8,515	0	0	0	8,515
1956	8,488	0	0	0	8,488
1957	8,529	0	0	0	8,529
1958	8,565	0	0	0	8,565
1959	8,550	0	0	0	8,550
1960	8,745	0	0	0	8,745
1961	8,981	0	0	0	8,981
1962	9,034	0	0	0	9,034
1963	9,365	0	0	0	9,365
1964	9,753	0	0	0	9,753
1965	9,944	0	0	0	9,944
1966	10,394	0	0	0	10,394
1967	10,397	0	0	0	10,397
1968	10,501	0	0	0	10,501
1969	10,573	0	0	0	10,573
1970	10,587	0	0	0	10,587

TABLE 3:2 ESTABLISHMENTS: CHANGE & PERCENTAGE CHANGE
N.Z. FACTORY PRODUCTION, 1923-1970

	TOTAL	PR. TOTAL	---INCREASE---- ABSOLUTE	%	----DECREASE---- ABSOLUTE	%
1923	4,315					
1924	4,399	4,315	84	1.95		
1925	4,631	4,399	232	5.27		
1926	4,930	4,631	299	6.46		
1927	5,012	4,930	82	1.66		
1928	4,984	5,012			-28	-0.56
1929	5,025	4,984	41	0.82		
1930	5,047	5,025	22	0.44		
1931	4,823	5,047			-224	-4.44
1932	4,848	4,823	25	0.52		
1933	4,884	4,848	36	0.74		
1934	5,125	4,884	241	4.93		
1935	5,392	5,125	267	5.21		
1936	5,584	5,392	192	3.56		
1937	5,780	5,584	196	3.51		
1938	6,002	5,780	222	3.84		
1939	6,199	6,002	197	3.28		
1940	6,253	6,199	54	0.87		
1941	6,227	6,253			-26	-0.42
1942	5,987	6,227			-240	-3.85
1943	6,062	5,987	75	1.25		
1944	6,340	6,062	278	4.59		
1945	6,847	6,340	507	8.00		
1946	7,498	6,847	651	9.51		
1947	7,825	7,498	327	4.36		
1949	7,887	7,825	62	0.79		
1950	8,178	7,887	291	3.69		
1951	8,546	8,178	368	4.50		
1952	8,511	8,546			-35	-0.41
1953	8,377	8,511			-134	-1.57
1954	8,366	8,377			-11	-0.13
1955	8,515	8,366	149	1.78		
1956	8,488	8,515			-27	-0.32
1957	8,529	8,488	41	0.48		
1958	8,565	8,529	36	0.42		
1959	8,550	8,565			-15	-0.18
1960	8,745	8,550	195	2.28		
1961	8,981	8,745	236	2.70		
1962	9,034	8,981	53	0.59		
1963	9,365	9,034	331	3.66		
1964	9,753	9,365	388	4.14		
1965	9,944	9,753	191	1.96		
1966	10,394	9,944	450	4.53		
1967	10,397	10,394	3	0.03		
1968	10,501	10,397	104	1.00		
1969	10,573	10,501	72	0.69		
1970	10,587	10,573	14	0.13		

TABLE 3:3 NUMBER OF ESTABLISHMENTS BY NUMBER OF PERSONS ENGAGED
N.Z. MANUFACTURE, 1923-1970

	NUMBER OF PERSONS ENGAGED									
	UNDER 10		11 TO 20		21 TO 50		51 TO 100		OVER 100	
	No	%	No.	%	No.	%	No.	%	No.	%
1924	2,972	65	720	16	570	13	155	3	121	3
1929	3,476	67	800	15	591	11	164	3	137	3
1934	3,725	71	764	14	496	9	143	3	142	3
1939	4,218	67	957	15	772	12	212	3	183	3
1944	4,139	64	1,046	16	833	13	270	4	197	3
1949	4,993	62	1,409	18	1,106	14	312	4	207	3
1954	5,350	64	1,473	18	1,020	12	316	4	212	3
1959	3,770	56	1,368	20	1,011	15	294	4	266	4
1964	4,190	55	1,488	20	1,159	15	388	5	329	4
1969	4,085	53	1,499	20	1,240	16	490	6	372	5
1970	3,927	52	1,495	20	1,287	17	489	6	402	5
1971	4,109	53	1,451	19	1,323	17	492	6	408	5
1972	3,984	52	1,446	19	1,323	17	504	7	408	5
1973	3,931	51	1,482	19	1,313	17	530	7	434	6

APPENDIX 3.B PERSONS ENGAGED

PERSONS ENGAGED

The aggregate Persons Engaged is defined as "the average number of employees over the whole of the year engaged in manufacturing, assembly, repair or treatment activities. Proprietors actively engaged in their own business are included, but all persons engaged in selling and distribution such as salesmen, carters engaged solely on outward delivery of manufactured goods, sales office staff and warehousemen are excluded." (Statistics Of Industrial Production For The Production Year 1970-72, p9).

At first sight this definition appears quite narrow and similar to the marxist concept of productive workers. In terms of functional occupational groupings, however, Persons Engaged includes proprietors, managers & overseers, accountants & clerks, "wage earners" and, from 1962, technicians.

Figures for the years 1923 and 1924 are less reliable than later ones because only since 1925 is the annual total was based on monthly averages rather than on the total number of persons employed in the year. In a few cases persons who changed employment in the year are therefore probably counted twice in figures before 1925. As well, until 1925 Persons Engaged were sub-

categorised distributive, administrative and productive workers. The statisticians who compiled the reports from 1925 considered the revised classification gave more reliable results.

Included in this section are a number of tables related to the number of persons engaged by sex and by functional occupational grouping. This data is not required at this stage of the analysis but is used later in calculating the variable capital component of wage & salary payments. Since gas, etc., must be excluded before this can be achieved these tables appear here. No official breakdown exists for occupational groupings for the years 1924 and 1925. As well there is no breakdown of occupational categories by sex for 1928 and 1929. In this section the series lack entries for each of these items in the relevant years. They are estimated in Appendix 6:A below .

Sources for data on total Persons Engaged are as follows: for 1923 & 1924: annual reports of Statistics Of Factory Production; for 1925 to 1928: Statistics of Factory Production, 1928-29, p12: for 1929 to 1932: ibid, 1932-33 Report: for 1933 to 1939: ibid, 1942-43; for 1940 to 1950: ibid, 1950-51; for 1951 to 1964: Statistics Of Industrial Production, 1964-65, p38; "Table 38, Factories: Summary Of Persons Engaged &

Salaries and Wages Paid"; for 1965 to 1970: ibid, 1970-71, p35.

Data for Tramways, Gas and Electricity and for functional occupational groups are taken from the same reports with the exception of the period to 1930. Here all data are taken from the annual reports for the particular year.

TABLE 3:4 NUMBER OF PERSONS ENGAGED
N.Z. FACTORY PRODUCTION, 1923-1970

	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923	77,661	2,011	1,247	3,151	71,252
1924	80,327	2,010	1,407	3,144	73,766
1925	81,701	2,053	1,985	3,310	74,353
1926	81,904	1,929	2,363	3,291	74,321
1927	81,756	1,878	2,196	3,136	74,546
1928	76,492	1,849	2,408	3,062	69,173
1929	85,797	1,796	2,459	2,936	78,606
1930	80,829	1,778	2,716	2,915	73,420
1931	68,697	1,784	2,726	0	64,187
1932	68,921	1,787	2,619	0	64,515
1933	72,651	1,758	2,803	0	68,090
1934	79,358	1,730	2,907	0	74,721
1935	86,588	1,779	3,010	0	81,799
1936	96,401	1,868	3,252	0	91,281
1937	102,344	1,920	3,427	0	96,997
1938	102,535	1,942	3,739	0	96,854
1939	108,722	1,889	3,991	0	102,842
1940	113,999	1,873	3,986	0	108,140
1941	117,214	1,744	3,881	0	111,589
1942	114,590	1,668	3,694	0	109,228
1943	117,864	1,704	3,721	0	112,439
1944	122,414	1,751	3,860	0	116,803
1945	128,208	1,830	4,399	0	121,979
1946	134,435	1,830	4,182	0	128,423
1947	140,267	1,778	4,342	0	134,147
1949	144,309	1,657	4,754	0	137,898
1950	148,490	1,711	4,970	0	141,809
1951	144,370	0	0	0	144,370
1952	143,180	0	0	0	143,180
1953	146,426	0	0	0	146,426
1954	153,558	0	0	0	153,558
1955	158,238	0	0	0	158,238
1956	156,752	0	0	0	156,752
1957	162,985	0	0	0	162,985
1958	168,772	0	0	0	168,772
1959	172,106	0	0	0	172,106
1960	180,436	0	0	0	180,436
1961	187,579	0	0	0	187,579
1962	191,515	0	0	0	191,515
1963	199,266	0	0	0	199,266
1964	211,050	0	0	0	211,050
1965	222,851	0	0	0	222,851
1966	229,302	0	0	0	229,302
1967	225,734	0	0	0	225,734
1968	229,074	0	0	0	229,074
1969	241,059	0	0	0	241,059
1970	251,425	0	0	0	251,425

TABLE 3:5 CHANGE & % CHANGE IN PERSONS ENGAGED
N.Z. MANUFACTURE, 1923-1970

	TOTAL	PR. TOTAL	---INCREASE--- NO.	%	---DECREASE---- NO.	%
1923	77,661					
1924	77,183	77,661			-478	-0.62
1925	78,708	77,183	1,525	1.98		
1926	78,613	78,708			-95	-0.12
1927	78,620	78,613	7	0.01		
1928	80,618	78,620	1,998	2.54		
1929	82,861	80,618	2,243	2.78		
1930	77,914	82,861			-4,947	-5.97
1931	68,697	77,914			-9,217	-11.83
1932	68,921	68,697	224	0.33		
1933	72,651	68,921	3,730	5.41		
1934	79,358	72,651	6,707	9.23		
1935	86,588	79,358	7,230	9.11		
1936	96,401	86,588	9,813	11.33		
1937	102,344	96,401	5,943	6.16		
1938	102,535	102,344	191	0.19		
1939	108,722	102,535	6,187	6.03		
1940	113,999	108,722	5,277	4.85		
1941	117,214	113,999	3,215	2.82		
1942	114,590	117,214			-2,624	-2.24
1943	117,864	114,590	3,274	2.86		
1944	122,414	117,864	4,550	3.86		
1945	128,208	122,414	5,794	4.73		
1946	134,435	128,208	6,227	4.86		
1947	140,267	134,435	5,832	4.34		
1949	144,309	140,267	4,042	2.88		
1950	148,490	144,309	4,181	2.90		
1951	144,370	148,370			-4,000	-2.70
1952	143,180	144,370			-1,190	-0.82
1953	146,426	143,180	3,246	2.27		
1954	153,558	146,426	7,132	4.87		
1955	158,238	153,558	4,680	3.05		
1956	156,752	158,238			-1,486	-0.94
1957	162,985	156,752	6,233	3.98		
1958	168,772	162,985	5,787	3.55		
1959	172,106	168,772	3,334	1.98		
1960	180,436	172,106	8,330	4.84		
1961	187,579	180,436	7,143	3.96		
1962	191,515	187,579	3,936	2.10		
1963	199,266	191,515	7,751	4.05		
1964	211,050	199,266	11,784	5.91		
1965	222,851	211,050	11,801	5.59		
1966	229,302	222,851	6,451	2.89		
1967	225,734	229,302			-3,568	-1.56
1968	229,074	225,734	3,340	1.48		
1969	241,059	229,074	11,985	5.23		
1970	251,425	241,059	10,366	4.30		

TABLE 3:6 OCCUPATIONS OF PERSONS ENGAGED
N.Z. MANUFACTURE, 1923-1970

	PROPRIETORS	MANAGERS & OVERSEERS	ACCOUNTANTS & CLERKS	WAGE EARNERS	TECHNICIANS	TOTAL
1923					0	
1924					0	
1925	2,602	4,619	6,372	61,408	0	75,001
1926	2,873	4,637	7,337	67,075	0	81,922
1927	2,834	4,747	7,518	66,767	0	81,866
1928	2,441	4,951	7,645	68,847	0	83,884
1929	2,655	4,698	8,040	70,151	0	85,544
1930	2,419	4,535	7,330	65,982	0	80,266
1931	2,177	4,562	7,337	54,648	0	68,724
1932	2,268	4,501	7,432	54,659	0	68,860
1933	2,312	4,148	7,545	58,293	0	72,298
1934	2,389	4,205	6,680	61,447	0	74,721
1935	2,475	4,481	7,119	67,451	0	81,526
1936	2,569	4,832	7,442	76,438	0	91,281
1937	2,685	5,053	7,399	81,860	0	96,997
1938	2,667	5,245	7,529	81,413	0	96,854
1939	2,619	5,547	7,854	86,822	0	102,842
1940	2,619	5,752	7,988	91,781	0	108,140
1941	2,451	5,902	8,052	95,184	0	111,589
1942	2,166	6,038	7,876	93,147	0	109,227
1943	2,210	6,289	7,963	95,975	0	112,437
1944	2,331	6,603	8,192	99,675	0	116,801
1945	2,777	7,255	8,962	103,201	0	122,195
1946	3,206	7,857	9,630	107,544	0	128,237
1947	3,299	8,170	9,865	112,813	0	134,147

TABLE 3:6 PERSONS ENGAGED BY OCCUPATIONAL CATEGORY
N.Z. MANUFACTURE, 1923-1970

	PROPRIETORS	MANAGERS & OVERSEERS	ACCOUNTANTS & CLERKS	WAGE EARNERS	TECHNICIANS	TOTAL
1949	2,833	8,070	9,666	117,329	0	137,898
1950	2,765	8,395	10,218	120,881	0	142,259
1951	2,836	8,722	10,061	122,751	0	144,370
1952	2,681	8,764	10,312	121,408	0	143,165
1953	2,357	8,965	10,018	125,125	0	146,465
1954	2,176	9,396	10,658	131,318	0	153,548
1955	2,112	10,108	11,474	134,544	0	158,238
1956	2,004	10,338	11,844	132,566	0	156,752
1957	1,845	10,748	12,595	137,797	0	162,985
1958	1,792	11,048	13,217	142,685	0	168,742
1959	1,667	11,411	13,704	145,191	0	171,973
1960	1,724	12,048	14,574	153,000	0	181,346
1961	1,827	12,476	15,356	157,920	0	187,579
1962	1,845	12,727	15,219	160,044	1,680	191,515
1963	1,756	13,576	15,647	166,172	2,115	199,266
1964	1,868	14,112	16,784	175,497	2,784	211,045
1965	1,761	14,727	17,905	185,139	3,319	222,851
1966	1,813	15,462	18,540	189,989	3,498	229,302
1967	1,688	15,747	18,688	185,781	3,834	225,738
1968	1,687	16,209	19,207	187,951	4,020	229,074
1969	1,591	16,336	20,074	198,597	4,461	241,059
1970	1,465	17,356	20,384	207,400	4,826	251,431

TABLE 3:7 OCCUPATIONS AS FRACTION OF PERSONS ENGAGED
N.Z. MANUFACTURE, 1923-1970

	PERCENT OF ALL PERSONS ENGAGED				
	PROPS	MANAGERS & OVERSEERS	ACCOUNTANTS & CLERKS	WAGE EARNERS	TECHS
1923					
1924					
1925	3.47	6.16	8.50	81.88	0.00
1926	3.51	5.66	8.96	81.88	0.00
1927	3.46	5.80	9.18	81.56	0.00
1928	2.91	5.90	9.11	82.07	0.00
1929	3.10	5.49	9.40	82.01	0.00
1930	3.01	5.65	9.13	82.20	0.00
1931	3.17	6.64	10.68	79.52	0.00
1932	3.29	6.54	10.79	79.38	0.00
1933	3.20	5.74	10.44	80.63	0.00
1934	3.20	5.63	8.94	82.24	0.00
1935	3.04	5.50	8.73	82.74	0.00
1936	2.81	5.29	8.15	83.74	0.00
1937	2.77	5.21	7.63	84.39	0.00
1938	2.75	5.42	7.77	84.06	0.00
1939	2.55	5.39	7.64	84.42	0.00
1940	2.42	5.32	7.39	84.87	0.00
1941	2.20	5.29	7.22	85.30	0.00
1942	1.98	5.53	7.21	85.28	0.00
1943	1.97	5.59	7.08	85.36	0.00
1944	2.00	5.65	7.01	85.34	0.00
1945	2.27	5.94	7.33	84.46	0.00
1946	2.50	6.13	7.51	83.86	0.00
1947	2.46	6.09	7.35	84.10	0.00
1949	2.05	5.85	7.01	85.08	0.00
1950	1.94	5.90	7.18	84.97	0.00
1951	1.96	6.04	6.97	85.03	0.00
1952	1.87	6.12	7.20	84.80	0.00
1953	1.61	6.12	6.84	85.43	0.00
1954	1.42	6.12	6.94	85.52	0.00
1955	1.33	6.39	7.25	85.03	0.00
1956	1.28	6.60	7.56	84.57	0.00
1957	1.13	6.59	7.73	84.55	0.00
1958	1.06	6.55	7.83	84.56	0.00
1959	0.97	6.64	7.97	84.43	0.00
1960	0.95	6.64	8.04	84.37	0.00
1961	0.97	6.65	8.19	84.19	0.00
1962	0.96	6.65	7.95	83.57	0.88
1963	0.88	6.81	7.85	83.39	1.06
1964	0.89	6.69	7.95	83.16	1.32
1965	0.79	6.61	8.03	83.08	1.49
1966	0.79	6.74	8.09	82.86	1.53
1967	0.75	6.98	8.28	82.30	1.70
1968	0.74	7.08	8.38	82.05	1.75
1969	0.66	6.78	8.33	82.39	1.85
1970	0.58	6.90	8.11	82.49	1.92

TABLE 3:8 PERSONS ENGAGED BY SEX
N.Z. MANUFACTURE, 1923-1970

	FEMALES	MALES	TOTAL	FEMALES % OF TOTAL	MALES % OF TOTAL	FEMALES AS % MALES
1923						
1924						
1925	14,341	60,330	74,671	19.21	80.79	23.77
1926	14,928	66,976	81,904	18.23	81.77	22.29
1927	15,756	66,000	81,756	19.27	80.73	23.87
1928	16,506	67,174	83,680	19.73	80.27	24.57
1929	17,355	68,442	85,797	20.23	79.77	25.36
1930	16,868	63,961	80,829	20.87	79.13	26.37
1931	15,775	52,922	68,697	22.96	77.04	29.81
1932	16,467	52,454	68,921	23.89	76.11	31.39
1933	17,352	55,299	72,651	23.88	76.12	31.38
1934	19,128	55,593	74,721	25.60	74.40	34.41
1935	21,019	60,507	81,526	25.78	74.22	34.74
1936	24,006	67,275	91,281	26.30	73.70	35.68
1937	25,775	71,222	96,997	26.57	73.43	36.19
1938	25,218	71,636	96,854	26.04	73.96	35.20
1939	28,078	74,764	102,842	27.30	72.70	37.56
1940	31,774	76,366	108,140	29.38	70.62	41.61
1941	34,568	77,021	111,589	30.98	69.02	44.88
1942	35,355	73,872	109,227	32.37	67.63	47.86
1943	35,476	76,961	112,437	31.55	68.45	46.10
1944	35,881	80,920	116,801	30.72	69.28	44.34
1945	34,899	87,296	122,195	28.56	71.44	39.98
1946	32,972	95,265	128,237	25.71	74.29	34.61
1947	33,517	100,630	134,147	24.99	75.01	33.31
1949	34,729	103,169	137,898	25.18	74.82	33.66
1950	36,741	105,518	142,259	25.83	74.17	34.82
1951	37,514	106,856	144,370	25.98	74.02	35.11
1952	35,920	107,245	143,165	25.09	74.91	33.49
1953	37,063	109,402	146,465	25.31	74.69	33.88
1954	39,253	114,295	153,548	25.56	74.44	34.34
1955	40,048	118,190	158,238	25.31	74.69	33.88
1956	38,917	117,835	156,752	24.83	75.17	33.03
1957	41,146	121,839	162,985	25.25	74.75	33.77
1958	43,128	125,614	168,742	25.56	74.44	34.33
1959	43,306	128,667	171,973	25.18	74.82	33.66
1960	45,598	135,748	181,346	25.14	74.86	33.59
1961	47,189	140,390	187,579	25.16	74.84	33.61
1962	47,668	143,847	191,515	24.89	75.11	33.14
1963	50,296	148,970	199,266	25.24	74.76	33.76
1964	53,346	157,699	211,045	25.28	74.72	33.83
1965	57,578	165,273	222,851	25.84	74.16	34.84
1966	59,248	170,054	229,302	25.84	74.16	34.84
1967	57,276	168,462	225,738	25.37	74.63	34.00
1968	57,602	171,472	229,074	25.15	74.85	33.59
1969	61,730	179,329	241,059	25.61	74.39	34.42
1970	65,148	186,283	251,431	25.91	74.09	34.97

TABLE 3:9 PROPRIETORS BY SEX
N.Z. MANUFACTURE, 1923-1970

	--PROPRIETORS--		------PERCENTAGE OF ALL------	
	FEMALE	ALL	PROPRIETORS -------THAT ARE FEMALE-------	PERSONS ENGAGED
1923				
1924				
1925	69	2,602	2.65	19.21
1926	65	2,873	2.26	18.23
1927	58	2,834	2.05	19.27
1928	80	2,441	3.28	19.73
1929	75	2,655	2.82	20.23
1930	77	2,419	3.18	20.87
1931	84	2,177	3.86	22.96
1932	87	2,268	3.84	23.89
1933	94	2,312	4.07	23.88
1934	109	2,389	4.56	25.60
1935	115	2,475	4.65	25.78
1936	120	2,569	4.67	26.30
1937	125	2,685	4.66	26.57
1938	132	2,667	4.95	26.04
1939	116	2,619	4.43	27.30
1940	130	2,619	4.96	29.38
1941	143	2,451	5.83	30.98
1942	148	2,166	6.83	32.37
1943	161	2,210	7.29	31.55
1944	162	2,331	6.95	30.72
1945	182	2,777	6.55	28.56
1946	208	3,206	6.49	25.71
1947	196	3,299	5.94	24.99
1949	165	2,833	5.82	25.18
1950	194	2,765	7.02	25.83
1951	201	2,836	7.09	25.98
1952	190	2,681	7.09	25.09
1953	206	2,357	8.74	25.31
1954	149	2,176	6.85	25.56
1955	139	2,112	6.58	25.31
1956	152	2,004	7.58	24.83
1957	138	1,845	7.48	25.25
1958	142	1,792	7.92	25.56
1959	116	1,667	6.96	25.18
1960	136	1,724	7.89	25.14
1961	122	1,827	6.68	25.16
1962	138	1,845	7.48	24.89
1963	131	1,756	7.46	25.24
1964	149	1,868	7.98	25.28
1965	142	1,761	8.06	25.84
1966	128	1,813	7.06	25.84
1967	133	1,688	7.88	25.37
1968	148	1,687	8.77	25.15
1969	154	1,591	9.68	25.61
1970	130	1,465	8.87	25.91

TABLE 3:10 MANAGERS & OVERSEERS BY SEX
N.Z. MANUFACTURE, 1923-1970

	--MANAGERS &--- OVERSEERS--- FEMALE	ALL	-------PERCENTAGE OF ALL------- MGRS & O'SRS. --------THAT ARE FEMALE--------	PERSONS ENGAGED
1923				
1924				
1925	131	4,289	3.05	19.21
1926	110	4,619	2.38	18.23
1927	109	4,637	2.35	19.27
1928	125	4,747	2.63	19.73
1929	134	4,951	2.71	20.23
1930	140	4,698	2.98	20.87
1931	126	4,535	2.78	22.96
1932	130	4,562	2.85	23.89
1933	130	4,501	2.89	23.88
1934	141	4,208	3.35	25.60
1935	139	4,481	3.10	25.78
1936	168	4,832	3.48	26.30
1937	160	5,053	3.17	26.57
1938	219	5,245	4.18	26.04
1939	234	5,547	4.22	27.30
1940	234	5,752	4.07	29.38
1941	282	5,902	4.78	30.98
1942	285	6,038	4.72	32.37
1943	331	6,289	5.26	31.55
1944	363	6,603	5.50	30.72
1945	365	7,255	5.03	28.56
1946	427	7,857	5.43	25.71
1947	416	8,170	5.09	24.99
1949	343	8,070	4.25	25.18
1950	385	8,395	4.59	25.83
1951	413	8,722	4.74	25.98
1952	373	8,764	4.26	25.09
1953	383	8,965	4.27	25.31
1954	386	9,386	4.11	25.56
1955	404	10,108	4.00	25.31
1956	413	10,338	3.99	24.93
1957	445	10,748	4.14	25.25
1958	474	11,048	4.29	25.56
1959	473	11,411	4.15	25.18
1960	488	12,048	4.05	25.14
1961	478	12,476	3.83	25.16
1962	481	12,727	3.78	24.89
1963	552	13,576	4.07	25.24
1964	592	14,112	4.20	25.28
1965	631	14,727	4.28	25.84
1966	680	15,462	4.40	25.84
1967	713	15,747	4.53	25.37
1968	832	16,209	5.13	25.15
1969	921	16,336	5.64	25.61
1970	941	17,356	5.42	25.91

TABLE 3:11 ACCOUNTANTS & CLERKS BY SEX
N.Z. MANUFACTURE, 1923-1970

	--ACCOUNTANTS-- & CLERKS---- FEMALE	ALL	------PERCENTAGE OF ALL------- ACCTS & CLKS THAT ARE FEMALE	PERSONS ENGAGED --------- FEMALE
1923				
1924				
1925	1,878	6,372	29.47	19.21
1926	2,262	7,337	30.83	18.23
1927	2,431	7,518	32.34	19.27
1928	2,539	7,645	33.21	19.73
1929	2,729	8,040	33.94	20.23
1930	2,623	7,730	33.93	20.87
1931	2,598	7,337	35.41	22.96
1932	2,617	7,432	35.21	23.89
1933	2,631	7,545	34.87	23.88
1934	2,396	6,680	35.87	25.60
1935	2,630	7,119	36.94	25.78
1936	2,775	7,442	37.29	26.30
1937	2,940	7,399	39.74	26.57
1938	3,130	7,529	41.57	26.04
1939	3,415	7,854	43.48	27.30
1940	3,696	7,988	46.27	29.38
1941	4,170	8,052	51.79	30.98
1942	4,461	7,876	56.64	32.37
1943	4,604	7,963	57.82	31.55
1944	4,597	8,192	56.12	30.72
1945	4,755	8,962	53.06	28.56
1946	4,793	9,630	49.77	25.71
1947	4,781	9,865	48.46	24.99
1949	4,553	9,666	47.10	25.18
1950	4,807	10,218	47.04	25.83
1951	4,725	10,061	46.96	25.98
1952	4,910	10,312	47.61	25.09
1953	4,722	10,018	47.14	25.31
1954	5,059	10,658	47.47	25.56
1955	5,498	11,474	47.92	25.31
1956	5,640	11,844	47.62	24.83
1957	6,057	12,595	48.09	25.25
1958	6,305	13,217	47.70	25.56
1959	6,605	13,704	48.20	25.18
1960	6,901	14,574	47.35	25.14
1961	7,310	15,356	47.60	25.16
1962	7,471	15,219	49.09	24.89
1963	7,796	15,647	49.82	25.24
1964	8,604	16,784	51.26	25.28
1965	9,187	17,905	51.31	25.84
1966	9,550	18,540	51.51	25.84
1967	9,719	18,688	52.01	25.37
1968	10,114	19,207	52.66	25.15
1969	10,592	20,074	52.76	25.61
1970	10,699	20,384	52.49	25.91

TABLE 3:12 WAGE EARNERS BY SEX
N.Z. MANUFACTURE, 1923-1970

	--WAGE EARNERS--		------PERCENTAGE OF ALL-------	
	FEMALE	ALL	WAGE EARNERS -------THAT ARE FEMALE--------	PERSONS ENGAGED
1923				
1924				
1925	12,263	61,408	19.97	19.21
1926	12,491	67,075	18.62	18.23
1927	13,158	66,767	19.71	19.27
1928	13,762	68,847	19.99	19.73
1929	14,417	70,151	20.55	20.23
1930	14,028	65,982	21.26	20.87
1931	12,967	54,648	23.73	22.96
1932	13,633	54,659	24.94	23.89
1933	14,497	58,293	24.87	23.88
1934	16,482	61,447	26.82	25.60
1935	18,135	67,451	26.89	25.78
1936	20,943	76,438	27.40	26.30
1937	22,550	81,860	27.55	26.57
1938	21,737	81,413	26.70	26.04
1939	24,313	86,822	28.00	27.30
1940	27,705	91,781	30.19	29.38
1941	29,973	95,184	31.49	30.98
1942	30,461	93,147	32.70	32.37
1943	30,380	95,975	31.65	31.55
1944	30,759	99,675	30.86	30.72
1945	29,597	103,201	28.68	28.56
1946	27,544	107,544	25.61	25.71
1947	28,124	112,813	24.93	24.99
1949	29,668	117,329	25.29	25.18
1950	31,355	120,881	25.94	25.83
1951	32,175	122,751	26.21	25.98
1952	30,447	121,408	25.08	25.09
1953	31,752	125,125	25.38	25.31
1954	33,659	131,318	25.63	25.56
1955	34,007	134,544	25.28	25.31
1956	32,712	132,566	24.68	24.83
1957	34,506	137,797	25.04	25.25
1958	36,207	142,685	25.38	25.56
1959	36,112	145,191	24.87	25.18
1960	38,073	153,000	24.88	25.14
1961	39,279	157,920	24.87	25.16
1962	39,382	160,044	24.61	24.89
1963	41,604	166,172	25.04	25.24
1964	43,745	175,497	24.93	25.28
1965	47,295	185,139	25.55	25.84
1966	48,580	189,989	25.57	25.84
1967	46,361	185,781	24.95	25.37
1968	46,145	187,951	24.55	25.15
1969	49,654	198,597	25.00	25.61
1970	52,936	207,400	25.52	25.91

TABLE 3:13 FEMALE PROPRIETORS
N.Z. FACTORY PRODUCTION, 1923-1970

	FEMALE PROPRIETORS		
	MANUFACTURE	GAS, ELECT & TRAMWAYS	FACTORY PRODUCTION
1923			
1924			
1925	69	0	69
1926	65	0	65
1927	58	0	58
1928	80	0	80
1929	75	0	75
1930	77	0	77
1931	84	0	84
1932	87	0	87
1933	94	0	94
1934	109	0	109
1935	115	0	115
1936	120	0	120
1937	125	0	125
1938	132	0	132
1939	116	0	116
1940	130	0	130
1941	143	0	143
1942	148	0	148
1943	161	0	161
1944	162	0	162
1945	182	0	182
1946	208	0	208
1947	196	0	196
1949	165	0	165
1950	194	0	194
1951	201	0	201
1952	190	0	190
1953	206	0	206
1954	149	0	149
1955	139	0	139
1956	152	0	152
1957	138	0	138
1958	142	0	142
1959	116	0	116
1960	136	0	136
1961	122	0	122
1962	138	0	138
1963	131	0	131
1964	149	0	149
1965	142	0	142
1966	128	0	128
1967	133	0	133
1968	148	0	148
1969	154	0	154
1970	130	0	130

TABLE 3:14 FEMALE MANAGERS & OVERSEERS
N.Z. FACTORY PRODUCTION, 1923-1970

	FEMALE MANAGERS & OVERSEERS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923					
1924					
1925	139	1	7	0	131
1926	110	3	0	0	107
1927	109	2	4	0	103
1928	125				
1929	134	2	1	0	131
1930	140	2	2	0	136
1931	126	4	1	0	121
1932	130	1	2	0	127
1933	130	1	1	0	128
1934	142	1	0	0	141
1935	141	1	1	0	139
1936	170	2	0	0	168
1937	163	2	1	0	160
1938	222	2	1	0	219
1939	236	1	1	0	234
1940	244	1	0	0	243
1941	283	1	0	0	282
1942	287	1	1	0	285
1943	335	2	2	0	331
1944	367	2	2	0	363
1945	367	1	1	0	365
1946	427	0	0	0	427
1947	416	0	0	0	416
1949	343	0	0	0	343
1950	385	0	0	0	385
1951	413	0	0	0	413
1952	373	0	0	0	373
1953	383	0	0	0	383
1954	386	0	0	0	386
1955	404	0	0	0	404
1956	413	0	0	0	413
1957	445	0	0	0	445
1958	474	0	0	0	474
1959	473	0	0	0	473
1960	488	0	0	0	488
1961	478	0	0	0	478
1962	481	0	0	0	481
1963	552	0	0	0	552
1964	592	0	0	0	592
1965	631	0	0	0	631
1966	680	0	0	0	680
1967	713	0	0	0	713
1968	832	0	0	0	832
1969	921	0	0	0	921
1970	941	0	0	0	941

TABLE 3:15 FEMALE ACCOUNTANTS & CLERKS
N.Z. FACTORY PRODUCTION, 1923-1970

	FEMALE ACCOUNTANTS & CLERKS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923					
1924					
1925	2,116	93	119	26	1,878
1926	2,262	96	182	41	1,943
1927	2,431	98	207	49	2,077
1928	2,539	95	225	38	2,181
1929	2,729	93	252	38	2,346
1930	2,623	90	249	38	2,246
1931	2,598	89	246	0	2,263
1932	2,617	89	244	0	2,284
1933	2,631	88	259	0	2,284
1934	2,730	84	250	0	2,396
1935	2,978	83	265	0	2,630
1936	3,147	86	286	0	2,775
1937	3,336	98	298	0	2,940
1938	3,557	92	335	0	3,130
1939	3,866	92	359	0	3,415
1940	4,185	101	388	0	3,696
1941	4,744	119	455	0	4,170
1942	5,126	138	527	0	4,461
1943	5,249	138	507	0	4,604
1944	5,222	129	496	0	4,597
1945	5,331	118	458	0	4,755
1946	5,315	105	417	0	4,793
1947	5,286	110	395	0	4,781
1949	5,119	111	455	0	4,553
1950	5,395	111	477	0	4,807
1951	4,725	0	0	0	4,725
1952	4,910	0	0	0	4,910
1953	4,722	0	0	0	4,722
1954	5,059	0	0	0	5,059
1955	5,498	0	0	0	5,498
1956	5,640	0	0	0	5,640
1957	6,057	0	0	0	6,057
1958	6,305	0	0	0	6,305
1959	6,605	0	0	0	6,605
1960	6,901	0	0	0	6,901
1961	7,310	0	0	0	7,310
1962	7,471	0	0	0	7,471
1963	7,796	0	0	0	7,796
1964	8,604	0	0	0	8,604
1965	9,187	0	0	0	9,187
1966	9,550	0	0	0	9,550
1967	9,719	0	0	0	9,719
1968	10,114	0	0	0	10,114
1969	10,592	0	0	0	10,592
1970	10,699	0	0	0	10,699

TABLE 3:16 FEMALE WAGE EARNERS
N.Z. FACTORY PRODUCTION, 1923-1970

	FEMALE WAGE EARNERS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923					
1924					
1925	12,305	1	25	16	12,263
1926	12,491	3	13	0	12,475
1927	13,158	4	5	0	13,149
1928	13,762	3	8	11	13,740
1929	14,417	4	11	10	14,392
1930	14,028	3	14	10	14,001
1931	12,967	3	8	0	12,956
1932	13,633	3	16	0	13,614
1933	14,497	4	16	0	14,477
1934	16,503	6	15	0	16,482
1935	18,157	5	17	0	18,135
1936	20,963	3	17	0	20,943
1937	22,569	3	16	0	22,550
1938	21,756	3	16	0	21,737
1939	24,337	3	21	0	24,313
1940	27,734	5	24	0	27,705
1941	30,002	4	25	0	29,973
1942	30,500	3	36	0	30,461
1943	30,426	4	42	0	30,380
1944	30,802	4	39	0	30,759
1945	29,627	3	27	0	29,597
1946	27,570	2	24	0	27,544
1947	28,163	2	37	0	28,124
1949	29,707	4	35	0	29,668
1950	31,395	3	37	0	31,355
1951	32,175	0	0	0	32,175
1952	30,447	0	0	0	30,447
1953	31,752	0	0	0	31,752
1954	33,659	0	0	0	33,659
1955	34,007	0	0	0	34,007
1956	32,712	0	0	0	32,712
1957	34,506	0	0	0	34,506
1958	36,207	0	0	0	36,207
1959	36,112	0	0	0	36,112
1960	38,073	0	0	0	38,073
1961	39,279	0	0	0	39,279
1962	39,382	0	0	0	39,382
1963	41,604	0	0	0	41,604
1964	43,745	0	0	0	43,745
1965	47,295	0	0	0	47,295
1966	48,580	0	0	0	48,580
1967	46,361	0	0	0	46,361
1968	46,145	0	0	0	46,145
1969	49,654	0	0	0	49,654
1970	52,936	0	0	0	52,936

TABLE 3:17 FEMALE PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
N.Z. FACTORY PRODUCTION, 1923-1970

	PROPRIETOR	MANAGER & OVERSEER	ACCOUNTANT & CLERK	WAGE EARNER	TECHNICIAN	FEMALE PERSONS ENGAGED
1923					0	
1924					0	
1925	69	131	1,878	12,263	0	14,341
1926	65	107	1,943	12,475	0	14,590
1927	58	103	2,077	13,149	0	15,387
1928	80	120	2,181	13,740	0	16,121
1929	75	131	2,346	14,392	0	16,944
1930	77	136	2,246	14,001	0	16,460
1931	84	121	2,263	12,956	0	15,424
1932	87	127	2,284	13,614	0	16,112
1933	94	128	2,284	14,477	0	16,983
1934	109	141	2,396	16,482	0	19,128
1935	115	139	2,630	18,135	0	21,019
1936	120	168	2,775	20,943	0	24,006
1937	125	160	2,940	22,550	0	25,775
1938	132	219	3,130	21,737	0	25,218
1939	116	234	3,415	24,313	0	28,078
1940	130	243	3,696	27,705	0	31,774
1941	143	282	4,170	29,973	0	34,568
1942	148	285	4,461	30,461	0	35,355
1943	161	331	4,604	30,380	0	35,476
1944	162	363	4,597	30,759	0	35,881
1945	182	365	4,755	29,597	0	34,899
1946	208	427	4,793	27,544	0	32,972
1947	196	416	4,781	28,124	0	33,517

TABLE 3:17 FEMALE PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
N.Z. FACTORY PRODUCTION, 1923-1970

	PROPRIETOR	MANAGER & OVERSEER	ACCOUNTANT & CLERK	WAGE EARNER	TECHNICIAN	FEMALE PERSONS ENGAGED
1949	165	343	4,553	29,668	0	34,729
1950	194	385	4,807	31,355	0	36,741
1951	201	413	4,725	32,175	0	37,514
1952	190	373	4,910	30,447	0	35,920
1953	206	383	4,722	31,752	0	37,063
1954	149	386	5,059	33,659	0	39,253
1955	139	404	5,498	34,007	0	40,048
1956	152	413	5,640	32,712	0	38,917
1957	138	445	6,057	34,506	0	41,146
1958	142	474	6,305	36,207	0	43,128
1959	116	473	6,605	36,112	0	43,306
1960	136	488	6,901	38,073	0	45,598
1961	122	478	7,310	39,279	0	47,189
1962	138	481	7,471	39,382	196	47,668
1963	131	552	7,796	41,604	213	50,296
1964	149	592	8,604	43,745	256	53,346
1965	142	631	9,187	47,295	323	57,578
1966	128	680	9,550	48,580	310	59,248
1967	133	713	9,719	46,361	350	57,276
1968	148	832	10,114	46,145	363	57,602
1969	154	921	10,592	49,654	409	61,730
1970	130	941	10,699	52,936	442	65,148

TABLE 3.18 OCCUPATIONS AS PERCENT OF FEMALE PERSONS ENGAGED
N.Z. FACTORY PRODUCTION, 1923-1970

	-----PERCENT OF FEMALE PERSONS ENGAGED-----				
	PROPS	MANGRS & O'SEERS	ACCTS & CLERKS	WAGE EARNERS	TECHS
1923					
1924					
1925	0.48	0.91	13.10	85.51	0.00
1926	0.45	0.73	13.32	85.50	0.00
1927	0.38	0.67	13.50	85.46	0.00
1928	0.50	0.74	13.53	85.23	0.00
1929	0.44	0.77	13.85	84.94	0.00
1930	0.47	0.83	13.60	85.06	0.00
1931	0.54	0.78	14.67	84.00	0.00
1932	0.54	0.79	14.18	84.50	0.00
1933	0.55	0.75	13.45	85.24	0.00
1934	0.57	0.74	12.53	86.17	0.00
1935	0.55	0.66	12.51	86.28	0.00
1936	0.50	0.70	11.56	87.24	0.00
1937	0.48	0.62	11.41	87.49	0.00
1938	0.52	0.87	12.41	86.20	0.00
1939	0.41	0.83	12.16	86.59	0.00
1940	0.41	0.76	11.63	87.19	0.00
1941	0.41	0.82	12.06	86.71	0.00
1942	0.42	0.81	12.62	86.16	0.00
1943	0.45	0.93	12.98	85.64	0.00
1944	0.45	1.01	12.81	85.73	0.00
1945	0.52	1.05	13.63	84.81	0.00
1946	0.63	1.30	14.54	83.54	0.00
1947	0.58	1.24	14.26	83.91	0.00
1949	0.48	0.99	13.11	85.43	0.00
1950	0.53	1.05	13.08	85.34	0.00
1951	0.54	1.10	12.60	85.77	0.00
1952	0.53	1.04	13.67	84.76	0.00
1953	0.56	1.03	12.74	85.67	0.00
1954	0.38	0.98	12.89	85.75	0.00
1955	0.35	1.01	13.73	84.92	0.00
1956	0.39	1.06	14.49	84.06	0.00
1957	0.34	1.08	14.72	83.86	0.00
1958	0.33	1.10	14.62	83.95	0.00
1959	0.27	1.09	15.25	83.39	0.00
1960	0.30	1.07	15.13	83.50	0.00
1961	0.26	1.01	15.49	83.24	0.00
1962	0.29	1.01	15.67	82.62	0.41
1963	0.26	1.10	15.50	82.72	0.42
1964	0.28	1.11	16.13	82.00	0.48
1965	0.25	1.10	15.96	82.14	0.56
1966	0.22	1.15	16.12	81.99	0.52
1967	0.23	1.24	16.97	80.94	0.61
1968	0.26	1.44	17.56	80.11	0.63
1969	0.25	1.49	17.16	80.44	0.66
1970	0.20	1.44	16.42	81.25	0.68

TABLE 3:19 MALE PROPRIETORS
N.Z. FACTORY PRODUCTION, 1923-1970

	MALE PROPRIETORS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923					
1924					
1925	2,536	0	3	0	2,533
1926	2,808	0	3	0	2,805
1927	2,776	0	0	0	2,776
1928	2,361	0	0	0	2,361
1929	2,580	0	0	0	2,580
1930	2,342	0	0	0	2,342
1931	2,093	0	0	0	2,093
1932	2,181	0	0	0	2,181
1933	2,218	0	0	0	2,218
1934	2,280	0	0	0	2,280
1935	2,360	0	0	0	2,360
1936	2,449	0	0	0	2,449
1937	2,561	0	1	0	2,560
1938	2,536	0	1	0	2,535
1939	2,504	0	1	0	2,503
1940	2,490	0	1	0	2,489
1941	2,309	0	1	0	2,308
1942	2,019	0	1	0	2,018
1943	2,050	0	1	0	2,049
1944	2,170	0	1	0	2,169
1945	2,596	0	1	0	2,595
1946	2,999	0	1	0	2,998
1947	3,104	0	1	0	3,103
1949	2,668	0	0	0	2,668
1950	2,571	0	0	0	2,571
1951	2,635	0	0	0	2,635
1952	2,491	0	0	0	2,491
1953	2,151	0	0	0	2,151
1954	2,027	0	0	0	2,027
1955	1,973	0	0	0	1,973
1956	1,852	0	0	0	1,852
1957	1,707	0	0	0	1,707
1958	1,650	0	0	0	1,650
1959	1,551	0	0	0	1,551
1960	1,588	0	0	0	1,588
1961	1,705	0	0	0	1,705
1962	1,707	0	0	0	1,707
1963	1,625	0	0	0	1,625
1964	1,719	0	0	0	1,719
1965	1,619	0	0	0	1,619
1966	1,685	0	0	0	1,685
1967	1,555	0	0	0	1,555
1968	1,539	0	0	0	1,539
1969	1,437	0	0	0	1,437
1970	1,335	0	0	0	1,335

TABLE 3:20 MALE MANAGERS & OVERSEERS
N.Z. FACTORY PRODUCTION, 1923-1970

	MALE MANAGERS & OVERSEERS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923					
1924					
1925	4,498	93	247	0	4,158
1926	4,509	91	242	0	4,176
1927	4,528	91	230	0	4,207
1928	4,817	92	278	0	4,447
1929	4,558	88	276	0	4,194
1930	4,817	90	278	0	4,449
1931	4,558	90	262	0	4,206
1932	4,409	93	268	0	4,048
1933	4,432	90	261	0	4,081
1934	4,371	94	264	0	4,013
1935	4,705	95	268	0	4,342
1936	5,038	94	280	0	4,664
1937	5,289	102	294	0	4,893
1938	5,419	100	293	0	5,026
1939	5,740	99	328	0	5,313
1940	5,907	99	299	0	5,509
1941	5,994	99	275	0	5,620
1942	6,099	94	252	0	5,753
1943	6,297	93	246	0	5,958
1944	6,595	89	266	0	6,240
1945	7,257	93	274	0	6,890
1946	7,777	96	251	0	7,430
1947	8,049	94	201	0	7,754
1949	8,043	101	215	0	7,727
1950	8,343	101	232	0	8,010
1951	8,309	0	0	0	8,309
1952	8,391	0	0	0	8,391
1953	8,582	0	0	0	8,582
1954	9,010	0	0	0	9,010
1955	9,704	0	0	0	9,704
1956	9,925	0	0	0	9,925
1957	10,303	0	0	0	10,303
1958	10,574	0	0	0	10,574
1959	10,938	0	0	0	10,938
1960	11,560	0	0	0	11,560
1961	11,998	0	0	0	11,998
1962	12,246	0	0	0	12,246
1963	13,024	0	0	0	13,024
1964	13,520	0	0	0	13,520
1965	14,096	0	0	0	14,096
1966	14,782	0	0	0	14,782
1967	15,034	0	0	0	15,034
1968	15,377	0	0	0	15,377
1969	15,415	0	0	0	15,415
1970	16,415	0	0	0	16,415

TABLE 3:21 MALE ACCOUNTANTS & CLERKS
N.Z. FACTORY PRODUCTION, 1923-1970

	MALE ACCOUNTANTS & CLERKS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923					
1924					
1925	5,129	316	201	118	4,494
1926	5,075	313	438	177	4,147
1927	5,087	321	386	185	4,195
1928	5,106	318	348	124	4,316
1929	5,311	317	384	135	4,475
1930	5,107	303	400	139	4,265
1931	4,739	313	397	0	4,029
1932	4,815	315	393	0	4,107
1933	4,914	313	373	0	4,228
1934	5,008	322	402	0	4,284
1935	5,251	333	429	0	4,489
1936	5,460	337	456	0	4,667
1937	5,300	341	500	0	4,459
1938	5,296	352	545	0	4,399
1939	5,388	350	599	0	4,439
1940	5,190	329	569	0	4,292
1941	4,731	303	546	0	3,882
1942	4,124	270	439	0	3,415
1943	4,018	261	398	0	3,359
1944	4,319	278	446	0	3,595
1945	5,065	286	572	0	4,207
1946	5,945	278	830	0	4,837
1947	6,145	284	777	0	5,084
1949	6,281	265	903	0	5,113
1950	6,599	286	902	0	5,411
1951	5,336	0	0	0	5,336
1952	5,402	0	0	0	5,402
1953	5,296	0	0	0	5,296
1954	5,599	0	0	0	5,599
1955	5,976	0	0	0	5,976
1956	6,204	0	0	0	6,204
1957	6,538	0	0	0	6,538
1958	6,912	0	0	0	6,912
1959	7,099	0	0	0	7,099
1960	7,673	0	0	0	7,673
1961	8,046	0	0	0	8,046
1962	7,748	0	0	0	7,748
1963	7,851	0	0	0	7,851
1964	8,180	0	0	0	8,180
1965	8,718	0	0	0	8,718
1966	8,990	0	0	0	8,990
1967	8,969	0	0	0	8,969
1968	9,093	0	0	0	9,093
1969	9,482	0	0	0	9,482
1970	9,685	0	0	0	9,685

TABLE 3:22 MALE WAGE EARNERS
N.Z. FACTORY PRODUCTION, 1923-1970

	MALE WAGE EARNERS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923					
1924					
1925	55,227	1,549	1,383	3,150	49,145
1926	54,584	1,423	1,585	3,073	48,503
1927	53,609	1,362	1,364	2,902	47,981
1928	55,085	1,341	1,549	2,889	49,306
1929	55,734	1,292	1,535	2,753	50,154
1930	51,954	1,290	1,783	2,728	46,153
1931	41,681	1,285	1,812	0	38,584
1932	41,026	1,286	1,696	0	38,044
1933	43,796	1,262	1,893	0	40,641
1934	48,164	1,223	1,976	0	44,965
1935	52,881	1,262	2,303	0	49,316
1936	59,054	1,346	2,213	0	55,495
1937	63,001	1,374	2,317	0	59,310
1938	63,617	1,393	2,548	0	59,676
1939	66,535	1,344	2,682	0	62,509
1940	68,119	1,338	2,705	0	64,076
1941	69,008	1,218	2,579	0	65,211
1942	66,287	1,163	2,438	0	62,686
1943	69,328	1,208	2,525	0	65,595
1944	72,777	1,251	2,610	0	68,916
1945	77,783	1,330	2,849	0	73,604
1946	84,194	1,319	2,875	0	80,000
1947	88,908	1,288	2,931	0	84,689
1949	91,983	1,176	3,146	0	87,661
1950	94,058	1,210	3,322	0	89,526
1951	90,576	0	0	0	90,576
1952	90,961	0	0	0	90,961
1953	93,373	0	0	0	93,373
1954	97,659	0	0	0	97,659
1955	100,537	0	0	0	100,537
1956	99,854	0	0	0	99,854
1957	103,291	0	0	0	103,291
1958	106,478	0	0	0	106,478
1959	109,079	0	0	0	109,079
1960	114,927	0	0	0	114,927
1961	118,641	0	0	0	118,641
1962	120,662	0	0	0	120,662
1963	124,568	0	0	0	124,568
1964	131,752	0	0	0	131,752
1965	137,844	0	0	0	137,844
1966	141,409	0	0	0	141,409
1967	139,420	0	0	0	139,420
1968	141,806	0	0	0	141,806
1969	148,943	0	0	0	148,943
1970	154,464	0	0	0	154,464

TABLE 3:23 MALE PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
N.Z. FACTORY PRODUCTION, 1923-1970

	PROPRIETOR	MANAGER & OVERSEER	ACCOUNTANT & CLERK	WAGE EARNER	TECHNICIAN	MALE PERSONS ENGAGED
1923					0	
1924					0	
1925	2,533	4,158	4,494	49,145	0	60,330
1926	2,805	4,176	4,147	48,503	0	59,631
1927	2,776	4,207	4,195	47,981	0	59,159
1928	2,361	4,447	4,316	49,306	0	60,430
1929	2,580	4,194	4,475	50,154	0	61,403
1930	2,342	4,449	4,265	46,153	0	57,209
1931	2,093	4,206	4,029	38,584	0	48,912
1932	2,181	4,048	4,107	38,044	0	48,380
1933	2,218	4,081	4,228	40,641	0	51,168
1934	2,280	4,013	4,284	44,965	0	55,542
1935	2,360	4,342	4,489	49,316	0	60,507
1936	2,449	4,664	4,667	55,495	0	67,275
1937	2,560	4,893	4,459	59,310	0	71,222
1938	2,535	5,026	4,399	59,676	0	71,636
1939	2,503	5,313	4,439	62,509	0	74,764
1940	2,489	5,509	4,292	64,076	0	76,366
1941	2,308	5,620	3,882	65,211	0	77,021
1942	2,018	5,753	3,415	62,686	0	73,872
1943	2,049	5,958	3,359	65,595	0	76,961
1944	2,169	6,240	3,595	68,916	0	80,920
1945	2,595	6,890	4,207	73,604	0	87,296
1946	2,998	7,430	4,837	80,000	0	95,265
1947	3,103	7,754	5,084	84,689	0	100,630

TABLE 3:23 MALE PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
N.Z. FACTORY PRODUCTION, 1923-1970

	PROPRIETOR	MANAGER & OVERSEER	ACCOUNTANT & CLERK	WAGE EARNER	TECHNICIAN	MALE PERSONS ENGAGED
1949	2,668	7,727	5,113	87,661	0	103,169
1950	2,571	8,010	5,411	89,526	0	105,518
1951	2,635	8,309	5,336	90,576	0	106,856
1952	2,491	8,391	5,402	90,961	0	107,245
1953	2,151	8,582	5,296	93,373	0	109,402
1954	2,027	9,010	5,599	97,659	0	114,295
1955	1,973	9,704	5,976	100,537	0	118,190
1956	1,852	9,925	6,204	99,854	0	117,835
1957	1,707	10,303	6,538	103,291	0	121,839
1958	1,650	10,574	6,912	106,478	0	125,614
1959	1,551	10,938	7,099	109,079	0	128,667
1960	1,588	11,560	7,673	114,927	0	135,748
1961	1,705	11,998	8,046	118,641	0	140,390
1962	1,707	12,246	7,748	120,662	1,484	143,847
1963	1,625	13,024	7,851	124,568	1,902	148,970
1964	1,719	13,520	8,180	131,752	2,528	157,699
1965	1,619	14,096	8,718	137,844	2,996	165,273
1966	1,685	14,782	8,990	141,409	3,188	170,054
1967	1,555	15,034	8,969	139,420	3,484	168,462
1968	1,539	15,377	9,093	141,806	3,657	171,472
1969	1,437	15,415	9,482	148,943	4,052	179,329
1970	1,335	16,415	9,685	154,464	4,384	186,283

TABLE 3:24 OCCUPATIONS AS PERCENT OF MALE PERSONS ENGAGED
N.Z. FACTORY PRODUCTION, 1923-1970

	----PERCENT OF MALES PERSONS ENGAGED-----				
	PROPS	MANGRS & O'SEERS	ACCTS & CLERKS	WAGE EARNERS	TECHS
1923					
1924					
1925	4.20	6.89	7.45	81.46	0.00
1926	4.70	7.00	6.95	81.34	0.00
1927	4.69	7.11	7.09	81.11	0.00
1928	3.91	7.36	7.14	81.59	0.00
1929	4.20	6.83	7.29	81.68	0.00
1930	4.09	7.78	8.24	80.67	0.00
1931	4.28	8.60	8.49	78.88	0.00
1932	4.51	8.37	8.26	78.64	0.00
1933	4.33	7.98	8.27	79.43	0.00
1934	4.11	7.23	7.71	80.96	0.00
1935	3.90	7.18	7.42	81.50	0.00
1936	3.64	6.93	6.94	82.49	0.00
1937	3.59	6.87	6.26	83.27	0.00
1938	3.54	7.02	6.14	83.30	0.00
1939	3.35	7.11	5.94	83.61	0.00
1940	3.26	7.21	5.62	83.91	0.00
1941	3.00	7.30	5.04	84.67	0.00
1942	2.73	7.79	4.62	84.86	0.00
1943	2.66	7.74	4.36	85.23	0.00
1944	2.68	7.71	4.44	85.17	0.00
1945	2.97	7.89	4.82	84.32	0.00
1946	3.15	7.80	5.08	83.98	0.00
1947	3.08	7.71	5.05	84.16	0.00
1949	2.59	7.49	4.96	84.97	0.00
1950	2.44	7.59	5.13	84.84	0.00
1951	2.47	7.78	4.99	84.76	0.00
1952	2.32	7.82	5.04	84.82	0.00
1953	1.97	7.84	4.84	85.35	0.00
1954	1.77	7.88	4.90	85.44	0.00
1955	1.67	8.21	5.06	85.06	0.00
1956	1.57	8.42	5.26	84.74	0.00
1957	1.40	8.46	5.37	84.78	0.00
1958	1.31	8.42	5.50	84.77	0.00
1959	1.21	8.50	5.52	84.78	0.00
1960	1.17	8.52	5.65	84.66	0.00
1961	1.21	8.55	5.73	84.51	0.00
1962	1.19	8.51	5.39	83.88	1.03
1963	1.09	8.74	5.27	83.62	1.28
1964	1.09	8.57	5.19	83.55	1.60
1965	0.98	8.53	5.27	83.40	1.81
1966	0.99	8.69	5.29	83.16	1.87
1967	0.92	8.92	5.32	82.76	2.07
1968	0.90	8.97	5.30	82.70	2.13
1969	0.80	8.60	5.29	83.06	2.26
1970	0.72	8.81	5.20	82.92	2.35

TABLE 3:25 NUMBER OF PERSONS ENGAGED BY ESTABLISHMENT SIZE
N.Z. MANUFACTURE, 1923-1973

	ESTABLISHMENT SIZE									
	UNDER 10		11 TO 20		21 TO 50		51 TO 100		OVER 100	
	No	%	No.	%	No.	%	No.	%	No.	%
1924	12,658	16	10,690	14	18,067	23	11,094	14	24,674	32
1929	15,474	19	11,785	14	17,977	22	11,658	14	25,967	31
1934	14,901	19	11,321	14	15,309	19	9,716	12	28,111	35
1939	17,212	16	14,048	13	23,316	21	14,737	14	39,409	36
1944	18,382	15	15,547	13	25,787	21	18,809	15	43,889	36
1949	24,481	17	20,608	14	34,386	24	21,304	15	43,530	30
1954	27,206	18	21,432	14	31,650	21	21,808	14	51,479	34
1959	19,490	12	20,135	13	31,226	20	20,517	13	65,410	42
1964	20,834	11	21,685	11	36,391	19	26,653	14	86,432	45
1969	20,722	9	22,089	10	39,031	18	34,762	16	103,504	47
1970	20,028	9	22,184	10	40,643	18	34,685	15	111,564	49
1971	21,171	9	21,373	9	41,669	18	34,717	15	113,494	49
1972	20,896	9	21,216	9	41,400	18	35,398	15	116,738	50
1973	20,472	8	21,738	9	41,241	17	37,358	15	123,713	51

APPENDIX 3.C SALARIES & WAGES

3.C SALARIES & WAGES PAID

Salaries and Wages Paid comprise "the total earnings of employees prior to PAYE tax deductions and include overtime, sick and annual leave pay, production bonuses etc. Drawings of proprietors in lieu of salaries are included." (Statistics Of Industrial Production For The Production Year 1970-71, p9.) In other words the wage and salary bill is the gross income for all people actively engaged in factory production and through that activity. It does not include "unearned" (investment or profit) incomes.

First the sums paid to persons engaged in gas, electricity and tramways are deducted (Table 3:26). Table 3:27 shows the conversion of Pound values to to Dollars and, in turn the conversion of the nominal dollars to constant (1984) dollars. Finally changes in the volume of wages and salaries paid each year are calculated in Table 3:28.

More detailed breakdowns of wages and salaries by occupational group, by sex and net of taxation etc. can be found in Appendix 6.

Data is taken from the following sources: for 1923 to 1930: Statistics Of Factory Production, 1930-31, p2;

for 1931 to 1935: Statistics Of Factory & Building Production, 1935-36, p2; for 1936 to 1943: Statistics Of Factory Production, 1943-44, p2; for 1944: ibid, 1946-47 & 1947-48 Report, p2; for 1945 to 1947: ibid, 1947-49 Report; for 1949 & 1950: ibid, 1950-51 Report; for 1951 to 1970: Statistics of Industrial Production, 1970-71, p15 "Factories: Historical Survey".

TABLE 3:26 WAGE & SALARY BILL, THOUSANDS NOMINAL POUNDS
N.Z. FACTORY PRODUCTION, 1923-1950

	-------THOUSANDS OF NOMINAL POUNDS--------				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923	14,573	443	267	721	13,142
1924	15,690	451	301	744	14,194
1925	16,932	441	454	778	15,259
1926	17,048	468	529	793	15,258
1927	16,878	474	553	825	15,026
1928	17,089	464	615	798	15,212
1929	17,621	453	625	775	15,768
1930	16,398	439	690	781	14,488
1931	12,642	400	667	0	11,575
1932	12,048	395	609	0	11,044
1933	12,107	384	642	0	11,081
1934	13,244	388	671	0	12,185
1935	14,844	409	734	0	13,701
1936	18,333	452	827	0	17,054
1937	20,981	499	930	0	19,552
1938	22,270	526	1,032	0	20,712
1939	24,461	539	1,121	0	22,801
1940	26,947	544	1,173	0	25,230
1941	29,504	444	1,204	0	27,856
1942	32,256	563	1,248	0	30,445
1943	34,433	591	1,324	0	32,518
1944	37,379	626	1,408	0	35,345
1945	41,499	689	1,628	0	39,182
1946	45,336	701	1,769	0	42,866
1947	52,133	749	1,799	0	49,585
1949	61,317	807	2,260	0	58,250
1950	70,387	872	2,520	0	66,995
1951					
1952					
1953					
1954					
1955					
1956					
1957					
1958					
1959					
1960					
1961					
1962					
1963					
1964					
1965					
1966					
1967					
1968					
1969					
1970					

TABLE 3:27 WAGE & SALARY BILL, CONSTANT (1984) DOLLARS
N.Z. FACTORY PRODUCTION, 1923-1970

	----THOUSANDS----		CONSUMER	THOUSANDS
	-----NOMINAL-----		PRICE	CONSTANT
	POUNDS	DOLLARS	INDEX	DOLLARS
1923	13,142	26,284	135	419,960
1924	14,194	28,388	137	446,956
1925	15,259	30,518	138	477,010
1926	15,258	30,516	139	473,547
1927	15,026	30,052	138	469,726
1928	15,212	30,424	138	475,540
1929	15,768	31,536	138	492,921
1930	14,488	28,976	135	462,972
1931	11,575	23,150	125	399,476
1932	11,044	22,088	115	414,294
1933	11,081	22,162	109	438,564
1934	12,185	24,370	111	473,568
1935	13,701	27,402	115	513,966
1936	17,054	34,108	119	618,243
1937	19,552	39,104	127	664,152
1938	20,712	41,424	131	682,073
1939	22,801	45,602	136	723,261
1940	25,230	50,460	142	766,495
1941	27,856	55,712	148	811,965
1942	30,445	60,890	152	864,077
1943	32,518	65,036	156	899,248
1944	35,345	70,690	159	958,983
1945	39,182	78,364	161	1,049,883
1946	42,866	85,732	162	1,141,506
1947	49,585	99,170	167	1,280,896
1949	58,250	116,500	184	1,365,709
1950	66,995	133,990	194	1,489,775
1951		150,058	216	1,498,496
1952		156,966	232	1,459,378
1953		173,242	243	1,537,790
1954		196,826	254	1,671,471
1955		215,878	260	1,790,957
1956		221,896	269	1,779,292
1957		239,978	275	1,882,300
1958		256,556	287	1,928,193
1959		272,352	298	1,971,353
1960		301,150	300	2,165,268
1961		323,064	306	2,277,284
1962		339,584	314	2,332,747
1963		368,584	320	2,484,487
1964		411,992	331	2,684,794
1965		455,030	343	2,861,515
1966		492,730	352	3,019,371
1967		495,878	373	2,867,584
1968		527,809	389	2,926,694
1969		608,270	409	3,207,918
1970		735,845	435	3,648,776
1984			2,157	

TABLE 3:28 WAGE & SALARIES, CHANGE & % CHANGE
N.Z. FACTORY PRODUCTION, 1923-1970

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	---INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	419,960					
1924	446,956	419,960	26,996	6.43		
1925	477,010	446,956	30,054	6.72		
1926	473,547	477,010			-3,463	-0.73
1927	469,726	473,547			-3,821	-0.81
1928	475,540	469,726	5,815	1.24		
1929	492,921	475,540	17,381	3.66		
1930	462,972	492,921			-29,949	-6.08
1931	399,476	462,972			-63,496	-13.71
1932	414,294	399,476	14,818	3.71		
1933	438,564	414,294	24,270	5.86		
1934	473,568	438,564	35,005	7.98		
1935	513,966	473,568	40,398	8.53		
1936	618,243	513,966	104,277	20.29		
1937	664,152	618,243	45,909	7.43		
1938	682,073	664,152	17,921	2.70		
1939	723,261	682,073	41,188	6.04		
1940	766,495	723,261	43,233	5.98		
1941	811,965	766,495	45,470	5.93		
1942	864,077	811,965	52,112	6.42		
1943	899,248	864,077	35,171	4.07		
1944	958,983	899,248	59,735	6.64		
1945	1,049,883	958,983	90,900	9.48		
1946	1,141,506	1,049,883	91,623	8.73		
1947	1,280,896	1,141,506	139,391	12.21		
1949	1,365,709	1,280,896	84,813	6.62		
1950	1,489,775	1,365,709	124,066	9.08		
1951	1,498,496	1,489,775	8,720	0.59		
1952	1,459,378	1,498,496			-39,118	-2.61
1953	1,537,790	1,459,378	78,412	5.37		
1954	1,671,471	1,537,790	133,681	8.69		
1955	1,790,957	1,671,471	119,486	7.15		
1956	1,779,292	1,790,957			-11,665	-0.65
1957	1,882,300	1,779,292	103,008	5.79		
1958	1,928,193	1,882,300	45,892	2.44		
1959	1,971,353	1,928,193	43,161	2.24		
1960	2,165,268	1,971,353	193,915	9.84		
1961	2,277,284	2,165,268	112,016	5.17		
1962	2,332,747	2,277,284	55,463	2.44		
1963	2,484,487	2,332,747	151,739	6.50		
1964	2,684,794	2,484,487	200,307	8.06		
1965	2,861,515	2,684,794	176,721	6.58		
1966	3,019,371	2,861,515	157,856	5.52		
1967	2,867,584	3,019,371			-151,787	-5.03
1968	2,926,694	2,867,584	59,110	2.06		
1969	3,207,918	2,926,694	281,224	9.61		
1970	3,648,776	3,207,918	440,858	13.74		

3.D RAW MATERIALS

The aggregate Raw Materials "includes the cost as delivered to the factory of materials actually used during the year in the manufacture of products, after the deduction of any subsidies payable by the Government on such raw materials. It includes purchased containers and packing materials used, and raw materials used in the manufacture of containers for own use.

"It also includes the cost of contract and commission work done by others on the materials used." (Statistics Of Industrial Production For The Production Year 1970-71)

The bill for raw materials is therefore the net cost as supplied to the factory gate, to all factories, of materials actually consumed in the year. It does not include stocks in hand. The payment of subsidies on raw materials is discussed in Chapter Four of the main text.

Table 3.29 removes the values for gas, electricity and tramways. From 1931 the figures for raw materials in the generation of electricity include "other productive expenses". All of the tramway figures for raw materials include "other productive expenses".

APPENDIX 3.D RAW MATERIALS

Nominal pounds are converted to nominal dollars and these to constant 1984 dollars in Table 3.30. Finally, changes in the volume of constant dollars required to purchase raw material are shown year by year in Table 3:31.

The volume of nominal dollars required to purchase raw materials can alter because either the mass of raw materials processed changes or the average cost of raw materials change. As discussed in Appendix 1, the rate of inflation of wholesale prices does not, in the short term, conform to the rate of inflation for retail prices. To take account of this, and the fact that most "factories" purchase raw materials wholesale, raw material have been reflated to 1984 dollars by using the "Wholesale Price Index Total".

Sources for totals for all factories is as follows: for 1923 to 1930: Statistics of Factory Production, 1930-31, p7, "Factory Production. - Materials & Products"; for 1931 to 1949: NZ. - Statistics of Factory Production, 1950-51, p14, "Factory Production - Principal Statistics 1910-11, 1915-16, 1918-19 to 1950-51"; for 1950: Statistics Of Factory Production, 1950-51, "Materials & Products"; for 1951 to 1970: Statistics Of Industrial Production,

1970-71, p17, "Factories: Historical Survey".

Sources for gas, electricity and tramways are identical except for the period 1942 to 1950 where data is taken from the relevant annual reports.

TABLE 3:29 RAW MATERIALS BILL, THOUSANDS NOMINAL POUNDS
N.Z. FACTORY PRODUCTION, 1923-1950

	THOUSANDS OF NOMINAL POUNDS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923	47,027	572	1,011	774	44,670
1924	52,161	543	1,247	824	49,547
1925	52,474	513	1,662	806	49,493
1926	50,213	496	2,208	869	46,640
1927	55,308	493	2,978	750	51,087
1928	59,871	478	3,236	734	55,423
1929	59,209	461	3,612	725	54,411
1930	49,184	480	3,750	726	44,228
1931	42,472	433	3,717	0	38,322
1932	42,726	394	3,923	0	38,409
1933	47,068	379	3,700	0	42,989
1934	52,277	372	3,798	0	48,107
1935	60,173	370	3,879	0	55,924
1936	70,938	397	4,157	0	66,384
1937	75,372	427	4,431	0	70,514
1938	75,635	448	5,135	0	70,052
1939	85,243	491	5,811	0	78,941
1940	98,548	533	6,316	0	91,699
1941	102,261	564	6,548	0	95,149
1942	107,448	603	6,400	0	100,445
1943	112,884	639	6,843	0	105,402
1944	122,695	709	7,191	0	114,795
1945	123,508	747	7,539	0	115,222
1946	138,534	768	8,360	0	129,406
1947	181,773	833	8,465	0	172,475
1949	221,229	965	10,082	0	210,182
1950	274,166	1,337	10,329	0	262,500
1951					
1952					
1953					
1954					
1955					
1956					
1957					
1958					
1959					
1960					
1961					
1962					
1963					
1964					
1965					
1966					
1967					
1968					
1969					
1970					

TABLE 3:30 RAW MATERIALS BILL, CONSTANT (1984) DOLLARS
N.Z. FACTORY PRODUCTION, 1923-1970

	-----THOUSANDS-----		WHOLESALE	THOUSANDS
	------NOMINAL------		PRICE INDEX	CONSTANT
	POUNDS	DOLLARS	TOTAL	DOLLARS
1923	44,670	89,340	127	1,520,186
1924	49,547	99,094	127	1,682,004
1925	49,493	98,986	126	1,688,489
1926	46,640	93,280	120	1,682,794
1927	51,087	102,174	114	1,939,722
1928	55,423	110,846	113	2,116,014
1929	54,411	108,822	112	2,095,795
1930	44,228	88,456	109	1,750,455
1931	38,322	76,644	102	1,620,795
1932	38,409	76,818	100	1,656,964
1933	42,989	85,978	102	1,818,182
1934	48,107	96,214	103	2,014,889
1935	55,924	111,848	107	2,254,730
1936	66,384	132,768	107	2,676,454
1937	70,514	141,028	116	2,622,391
1938	70,052	140,104	118	2,561,054
1939	78,941	157,882	122	2,791,406
1940	91,699	183,398	136	2,908,746
1941	95,149	190,298	149	2,754,851
1942	100,445	200,890	161	2,691,427
1943	105,402	210,804	172	2,643,629
1944	114,795	229,590	177	2,797,885
1945	115,222	230,444	180	2,761,487
1946	129,406	258,812	181	3,084,295
1947	172,475	344,950	187	3,978,915
1949	210,182	420,364	207	4,380,315
1950	262,500	525,000	226	5,010,730
1951		581,462	263	4,768,873
1952		637,898	292	4,712,144
1953		665,650	290	4,951,059
1954		730,598	287	5,490,940
1955		769,588	290	5,724,142
1956		789,976	301	5,661,057
1957		835,836	305	5,911,142
1958		837,294	313	5,770,106
1959		878,176	318	5,956,684
1960		939,406	319	6,352,034
1961		976,980	318	6,626,874
1962		1,005,672	316	6,864,666
1963		1,160,718	322	7,775,369
1964		1,343,976	334	8,679,510
1965		1,416,403	343	8,907,234
1966		1,466,347	349	9,062,781
1967		1,492,863	357	9,019,903
1968		1,662,326	382	9,386,485
1969		1,869,033	401	10,053,626
1970		2,104,909	425	10,683,032
Dec. 1984			2,157	

TABLE 3:31 RAW MATERIALS BILL, CHANGE & % CHANGE
N.Z. FACTORY PRODUCTION, 1923-1970

	-THOUSANDS OF CONSTANT DOLLARS--					
		PR.	---INCREASE----		-----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	1,520,186					
1924	1,682,004	1,520,186	161,818	10.64		
1925	1,688,489	1,682,004	6,485	0.39		
1926	1,682,794	1,688,489			-5,695	-0.34
1927	1,939,722	1,682,794	256,928	15.27		
1928	2,116,014	1,939,722	176,292	9.09		
1929	2,095,795	2,116,014			-20,219	-0.96
1930	1,750,455	2,095,795			-345,340	-16.48
1931	1,620,795	1,750,455			-129,660	-7.41
1932	1,656,964	1,620,795	36,169	2.23		
1933	1,818,182	1,656,964	161,218	9.73		
1934	2,014,889	1,818,182	196,707	10.82		
1935	2,254,730	2,014,889	239,841	11.90		
1936	2,676,454	2,254,730	421,724	18.70		
1937	2,622,391	2,676,454			-54,063	-2.02
1938	2,561,054	2,622,391			-61,338	-2.34
1939	2,791,406	2,561,054	230,352	8.99		
1940	2,908,746	2,791,406	117,341	4.20		
1941	2,754,851	2,908,746			-153,895	-5.29
1942	2,691,427	2,754,851			-63,424	-2.30
1943	2,643,629	2,691,427			-47,798	-1.78
1944	2,797,885	2,643,629	154,256	5.83		
1945	2,761,487	2,797,885			-36,398	-1.30
1946	3,084,295	2,761,487	322,808	11.69		
1947	3,978,915	3,084,295	894,620	29.01		
1949	4,380,315	3,978,915	401,399	10.09		
1950	5,010,730	4,380,315	630,415	14.39		
1951	4,768,873	5,010,730				
1952	4,712,144	4,768,873			-56,729	-1.19
1953	4,951,059	4,712,144	238,915	5.07		
1954	5,490,940	4,951,059	539,882	10.90		
1955	5,724,142	5,490,940	233,202	4.25		
1956	5,661,057	5,724,142			-63,085	-1.10
1957	5,911,142	5,661,057	250,085	4.42		
1958	5,770,106	5,911,142			-141,036	-2.39
1959	5,956,684	5,770,106	186,578	3.23		
1960	6,352,034	5,956,684	395,349	6.64		
1961	6,626,874	6,352,034	274,840	4.33		
1962	6,864,666	6,626,874	237,792	3.59		
1963	7,775,369	6,864,666	910,703	13.27		
1964	8,679,510	7,775,369	904,141	11.63		
1965	8,907,234	8,679,510	227,724	2.62		
1966	9,062,781	8,907,234	155,547	1.75		
1967	9,019,903	9,062,781			-42,877	-0.47
1968	9,386,485	9,019,903	366,581	4.06		
1969	10,053,626	9,386,485	667,142	7.11		
1970	10,683,032	10,053,626	629,406	6.26		

3.E OTHER PRODUCTIVE EXPENSES

Other Expenses of Production "... represent the remaining production costs after salaries, wages and materials have been charged." (Statistics Of Industrial Production For The Production Year 1970-71, p9).

Other Productive Expenses therefore include all those incidental costs, incurred in production, which are only indirectly transferred into the product, such as the heating and lighting of the factory, telephone rentals, office furniture and stationery, insurance etc.

In the annual accounts the aggregate Other Productive Expenses generally includes, in addition to these items, depreciation allowances and interest paid on borrowed capital. In the consolidated accounts, and some of the long-run historical summaries, Other Productive Expenses may refer either to the narrow (exclusive) or wider (more inclusive) definition, i.e. exclude or include depreciation and interest paid. Summaries featuring the category "net output" use the exclusive definition while those for "added value" or "new added value" employ the inclusive one.

In marxist accounting the interest paid by

manufacturers is not treated as a cost of production, i.e., as reproduced value, but as newly created value a part of the total surplus value produced. Insofar as the official net output series treat interest payments as newly generated income, they come closer to marxian aggregates than the earlier Added-Value and New Added-Value series. But this poses a new problem since depreciation allowances and interest payments are not always identifiable in the sum of other productive expenses.

Data are not available from official reports on depreciation for any factory production in 1923, 1924 & 1925, and for gas, electricity and tramways 1923 to 1927 inclusive. No data are available for interest payments prior to 1954. Values are estimated for interest payments below (Appendix 5 "Bourgeois Categories" and Appendices 6 & 7). A full discussion of the methods used is given there.

To establish a basis for estimates where values are missing for depreciation across the whole sector, a ratio is struck between the known allowances for the years 1926, 1927, 1928 & 29 and total Other Productive Expenses for those years. This gives the following results: 15.25% (1929), 14.45% (1928), 11.3% (1927) and 11.2% (1926).

APPENDIX 3.E OTHER PRODUCTIVE EXPENSES

The allowance for depreciation, essentially a tax concession, does not correspond directly to the rate at which fixed capital assets are "consumed". A major determinant is the tax concession favouring new equipment over old as an incentive to increased productive investment. This means not only that the absolute level of tax concession and the absolute levels for equipment of different ages must be taken into account. The "age mix" of fixed capital stock itself is a crucial ingredient in determining the depreciation allowance. In all, the rate at which assets are allowed to depreciate is subject to extra-economic factors, including the state's financing requirements, the balance between class forces (which determines who should carry the burden of state expenditure), and so on.

To arrive at values for total depreciation a sum amounting to 11.0% of total Other Productive Expenses was calculated. An attempt was made to estimate them on the basis of the total "value" of fixed capital assets. However, no doubt for the reasons given in the last paragraph, this was found to be a less satisfactory method than the one finally adopted.

Depreciation values for the gas, electricity and

tramways industries were estimated by using ratios, between depreciation for the sector and the total for these industries combined, for the years 1928 (28.9%) & 1929 (27.5%) as a benchmark. Subsequently depreciation for Gas, Electricity and Tramways were estimated as 27.0% of the total depreciation allowed for the years 1923 to 1927 inclusive.

The estimates made for both depreciation and interest payments are obviously crude. More adequate techniques could be devised to improve them. In view of the small amounts involved more elaborate methods are simply not warranted. (Like many other adjustments,) The imputed values bias the series slightly against Marxian explanations in that there effect on historical movements is counter cyclical.

Even after all these adjustments the category Other Productive Expenses is still some way from the marxian aggregate Circulating Capital. Two further elements, described as "costs of production" must appear elsewhere in the marxian set of accounts.

First there is the rent paid on leased or rented fixed capital assets. Generally speaking, an income derived from rent has two elements. One derives from the depreciation of the assets; another is profit and

as such a fraction of total surplus-value.

In Factory Production data, as described in Appendix 3:G below, the Department of Statistics estimates a value for rented assets from rent paid and includes this sum in "the value of plant and premises". This means rented property appears as a cost against production twice over ! In Appendix 6, "From Bourgeois to Marxian Categories", Section C: Circulating Capital, all rent payments are therefore treated as costs against surplus-value and included in the pool of surplus-value.

The second element that must be deleted from Other Productive Expenses is the entry for the value of work done, as repairs, improvements and maintenance by regular employees of the establishment. This point is also taken up in Appendix 6:C.

There are six tables in this section. Three (3:32, 3:33 & 3:34) include values for depreciation and interest payments, and three (3:35, 3:36 & 3:37), exclude them.

Table 3:32 shows the deletion of values for gas and electricity. Table 3.33 converts nominal pounds to nominal dollars and nominal dollars to constant, 1984,

dollars. In Table 3:34 the changes (in constant 1984 dollars) in the annual flow of Other Productive Expenses are shown.

In Table 3:35 depreciation and interest payments are deducted from the results of 3:33. In 3:36 the nominal dollar values of 3:35 are reflated, and in 3:36 the changes in the narrowly defined volume of Other Productive Expenses over time are estimated.

Sources are as follows: for 1923 to 1930: Statistics of Factory Production, 1930-31; for 1931 to 1949: N.Z. -Statistics of Factory Production, 1950-51, p14; for 1950: ibid, p17; for 1951 to 1954: Statistics of Industrial Production 1955-56, p13; for 1955 to 1960: Statistics of Industrial Production 1960-61, p44, for 1961 to 1970: pp47, 56, 57, 58, 62, 61, 59, 59, 57, 56 of the relevant annual reports.

Other Productive Expenses for Tramways to 1930 and Electricity 1931-1950 are, in the official reports, included in the cost of raw materials.

TABLE 3:32 OTHER PRODUCTIVE EXPENSES, NOMINAL POUNDS
N.Z. FACTORY PRODUCTION, 1923-1964

	THOUSANDS OF NOMINAL POUNDS				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923	8,642	362	330	774	7,176
1924	9,385	352	365	824	7,844
1925	9,801	426	596	808	7,971
1926	10,116	399	834	874	8,009
1927	10,368	385	1,107	750	8,126
1928	11,578	392	1,200	734	9,252
1929	12,223	444	1,250	725	9,804
1930	11,534	458	1,750	726	8,600
1931	9,806	514	1,703		7,589
1932	8,263	413			7,850
1933	8,108	398			7,710
1934	8,810	409			8,401
1935	9,374	385			8,989
1936	10,481	351			10,130
1937	10,540	347			10,193
1938	10,009	350			9,659
1939	11,044	339			10,705
1940	11,979	385			11,594
1941	12,813	366			12,447
1942	13,332	353			12,979
1943	14,516	384			14,132
1944	15,481	392			15,089
1945	16,279	402			15,877
1946	18,247	403			17,844
1947	21,240	439			20,801
1949	26,335	554			25,781
1950	30,528	582			29,946
1951	32,028				32,028
1952	35,360				35,360
1953	40,393				40,393
1954	47,493				47,493
1955	56,541				56,541
1956	59,902				59,902
1957	66,052				66,052
1958	70,321				70,321
1959	72,481				72,481
1960	78,998				78,998
1961	86,795				86,795
1962	95,141				95,141
1963	103,219				103,219
1964	115,991				115,991
1965					
1966					
1967					
1968					
1969					
1970					

TABLE 3:33 OTHER PRODUCTIVE EXPENSES, CONSTANT 1984 DOLLARS
N.Z. FACTORY PRODUCTION, 1923-1970

	----THOUSANDS---- -----NOMINAL----- POUNDS	DOLLARS	WHOLESALE PRICE INDEX TOTAL	THOUSANDS CONSTANT DOLLARS
1923	7,176	14,352	127	244,210
1924	7,844	15,688	127	266,285
1925	7,971	15,942	126	271,936
1926	8,009	16,018	120	288,969
1927	8,126	16,252	114	308,536
1928	9,252	18,504	113	353,235
1929	9,804	19,608	112	377,629
1930	8,600	17,200	109	340,371
1931	7,589	15,178	102	320,970
1932	7,850	15,700	100	338,649
1933	7,710	15,420	102	326,088
1934	8,401	16,802	103	351,863
1935	8,989	17,978	107	362,416
1936	10,130	20,260	107	408,419
1937	10,193	20,386	116	379,074
1938	9,659	19,318	118	353,126
1939	10,705	21,410	122	378,536
1940	11,594	23,188	136	367,769
1941	12,447	24,894	149	360,378
1942	12,979	25,958	161	347,773
1943	14,132	28,264	172	354,450
1944	15,089	30,178	177	367,762
1945	15,877	31,754	180	380,519
1946	17,844	35,688	181	425,298
1947	20,801	41,602	187	479,869
1949	25,781	51,562	207	537,291
1950	29,946	59,892	226	571,624
1951	32,028	64,056	263	525,357
1952	35,360	70,720	292	522,408
1953	40,393	80,786	290	600,881
1954	47,493	94,986	287	713,884
1955	56,541	113,082	290	841,096
1956	59,902	119,804	301	858,529
1957	66,052	132,104	305	934,257
1958	70,321	140,642	313	969,217
1959	72,481	144,962	318	983,280
1960	78,998	157,996	319	1,068,330
1961	86,795	173,590	318	1,177,464
1962	95,141	190,282	316	1,298,855
1963	103,219	206,438	322	1,382,878
1964	115,991	231,982	334	1,498,159
1965		263,419	343	1,656,545
1966		292,537	349	1,808,030
1967		307,898	357	1,860,325
1968		334,870	382	1,890,876
1969		377,480	401	2,030,485
1970		444,062	425	2,253,745
Dec 1984			2,157	

TABLE 3:34 OTHER PRODUCTIVE EXPENSES, CHANGE & % CHANGE
N.Z. FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	---INCREASE----		---DECREASE----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	244,210					
1924	266,285	244,210	22,075	9.04		
1925	271,936	266,285	5,651	2.12		
1926	288,969	271,936	17,033	6.26		
1927	308,536	288,969	19,567	6.77		
1928	353,235	308,536	44,699	14.49		
1929	377,629	353,235	24,394	6.91		
1930	340,371	377,629			-37,258	-9.87
1931	320,970	340,371			-19,401	-5.70
1932	338,649	320,970	17,679	5.51		
1933	326,088	338,649			-12,561	-3.71
1934	351,863	326,088	25,775	7.90		
1935	362,416	351,863	10,553	3.00		
1936	408,419	362,416	46,003	12.69		
1937	379,074	408,419			-29,345	-7.18
1938	353,126	379,074			-25,948	-6.84
1939	378,536	353,126	25,410	7.20		
1940	367,769	378,536			-10,768	-2.84
1941	360,378	367,769			-7,391	-2.01
1942	347,773	360,378			-12,605	-3.50
1943	354,450	347,773	6,677	1.92		
1944	367,762	354,450	13,312	3.76		
1945	380,519	367,762	12,757	3.47		
1946	425,298	380,519	44,779	11.77		
1947	479,869	425,298	54,571	12.83		
1949	537,291	479,869	57,422	11.97		
1950	571,624	537,291	34,333	6.39		
1951	525,357	571,624			-46,267	-8.09
1952	522,408	525,357			-2,949	-0.56
1953	600,881	522,408	78,473	15.02		
1954	713,884	600,881	113,004	18.81		
1955	841,096	713,884	127,212	17.82		
1956	858,529	841,096	17,433	2.07		
1957	934,257	858,529	75,728	8.82		
1958	969,217	934,257	34,960	3.74		
1959	983,280	969,217	14,063	1.45		
1960	1,068,330	983,280	85,050	8.65		
1961	1,177,464	1,068,330	109,134	10.22		
1962	1,298,855	1,177,464	121,391	10.31		
1963	1,382,878	1,298,855	84,023	6.47		
1964	1,498,159	1,382,878	115,281	8.34		
1965	1,656,545	1,498,159	158,385	10.57		
1966	1,808,030	1,656,545	151,485	9.14		
1967	1,860,325	1,808,030	52,295	2.89		
1968	1,890,876	1,860,325	30,551	1.64		
1969	2,030,485	1,890,876	139,609	7.38		
1970	2,253,745	2,030,485	223,261	11.00		

TABLE 3:35 OTHER PRODUCTIVE EXPENSES 2 PLUS INTEREST
N.Z. FACTORY PRODUCTION, 1923-70

	OTHER PROD EXPENSES 1	DEPRECIATION MANUFACTURE FROM TAB 6.54	DEPRECIATION GAS ETC	DEPRECIATION FACTORY PRODUCTION	OTHER PROD EXPENSES 2 & INTEREST
1923	14,352	2,053	450	1,603	12,749
1924	15,688	2,222	523	1,699	13,989
1925	15,942	2,381	731	1,650	14,292
1926	16,018	2,261	743	1,518	14,500
1927	16,252	2,345	857	1,488	14,764
1928	18,504	3,346	914	2,432	16,072
1929	19,608	3,727	1,078	2,649	16,959
1930	17,200	3,620	1,054	2,566	14,634
1931	15,178	3,261	916	2,345	12,833
1932	15,700	2,662	256	2,406	13,294
1933	15,420	2,690	246	2,444	12,976
1934	16,802	2,867	276	2,591	14,211
1935	17,978	2,990	230	2,760	15,218
1936	20,260	3,124	208	2,916	17,344
1937	20,386	3,260	224	3,036	17,350
1938	19,318	3,379	232	3,147	16,171
1939	21,410	3,715	224	3,491	17,919
1940	23,188	4,203	270	3,933	19,255
1941	24,894	4,520	266	4,254	20,640
1942	25,958	4,740	276	4,464	21,494
1943	28,264	5,076	268	4,808	23,456
1944	30,178	5,338	370	4,968	25,210
1945	31,754	5,671	344	5,327	26,427
1946	35,688	7,063	368	6,695	28,993
1947	41,602	8,505	378	8,127	33,475
1949	51,562	11,617	344	11,273	40,289
1950	59,892	13,623	328	13,295	46,597
1951	64,056	14,092	0	14,092	49,964
1952	70,720	15,496	0	15,496	55,224
1953	80,786	17,592	0	17,592	63,194
1954	94,986	21,286	0	21,286	73,700
1955	113,082	27,056	0	27,056	86,026
1956	119,804	28,478	0	28,478	91,326
1957	132,104	31,740	0	31,740	100,364
1958	140,642	31,472	0	31,472	109,170
1959	144,962	31,306	0	31,306	113,656
1960	157,996	33,232	0	33,232	124,764
1961	173,590	37,092	0	37,092	136,498
1962	190,282	43,468	0	43,468	146,814
1963	206,438	47,342	0	47,342	159,096
1964	231,982	53,854	0	53,854	178,128
1965	263,419	63,797	0	63,797	199,622
1966	292,537	70,195	0	70,195	222,342
1967	307,898	72,302	0	72,302	235,596
1968	334,870	75,627	0	75,627	259,243
1969	377,480	83,811	0	83,811	293,669
1970	444,062	94,026	0	94,026	350,036

TABLE 3:36 OTHER PRODUCTIVE EXPENSES 2, CONSTANT 1984 DOLLARS
N.Z. FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX TOTAL	THOUSANDS CONSTANT DOLLARS
1923	13,657	127	231,954
1924	14,773	127	250,754
1925	15,399	126	262,674
1926	16,235	120	292,883
1927	16,632	114	315,750
1928	18,122	113	345,943
1929	19,001	112	365,939
1930	13,379	109	264,757
1931	12,026	102	254,315
1932	11,698	100	252,326
1933	11,704	102	247,505
1934	12,765	103	267,321
1935	13,628	107	274,725
1936	15,860	107	319,720
1937	15,573	116	289,577
1938	14,414	118	263,483
1939	16,082	122	284,335
1940	17,338	136	274,986
1941	18,646	149	269,929
1942	19,400	161	259,912
1943	21,208	172	265,963
1944	22,768	177	277,461
1945	23,928	180	286,737
1946	26,336	181	313,849
1947	30,308	187	349,595
1949	33,022	207	344,099
1950	42,204	226	402,805
1951	46,750	263	383,421
1952	51,620	292	381,316
1953	59,434	290	442,066
1954	70,812	287	532,200
1955	80,850	290	601,357
1956	85,238	301	610,825
1957	93,947	305	664,406
1958	102,415	313	705,780
1959	106,980	318	725,647
1960	117,602	319	795,196
1961	127,927	318	867,731
1962	136,099	316	929,005
1963	148,248	322	993,077
1964	165,580	334	1,069,330
1965	185,036	343	1,163,623
1966	205,773	349	1,271,783
1967	216,528	357	1,308,266
1968	238,232	382	1,345,200
1969	271,849	401	1,462,290
1970	322,555	425	1,637,061
Dec 1984		2,157	

TABLE 3:37 OTHER PRODUCTIVE EXPENSES 2, CHANGE & % CHANGE
N.Z. FACTORY PRODUCTION, 1923-70

	----THOUSANDS 1984 DOLLARS----					
			----INCREASE----		----DECREASE-----	
	TOTAL	PR. TOTAL	NO.	%	NO.	%
1923	231,954					
1924	250,754	231,954	18,800	8.11		
1925	262,674	250,754	11,920	4.75		
1926	292,883	262,674	30,209	11.50		
1927	315,750	292,883	22,867	7.81		
1928	345,943	315,750	30,193	9.56		
1929	365,939	345,943	19,996	5.78		
1930	264,757	365,939			-101,182	-27.65
1931	254,315	264,757			-10,442	-3.94
1932	252,326	254,315			-1,989	-0.78
1933	247,505	252,326			-4,821	-1.91
1934	267,321	247,505	19,816	8.01		
1935	274,725	267,321	7,404	2.77		
1936	319,720	274,725	44,995	16.38		
1937	289,577	319,720			-30,143	-9.43
1938	263,483	289,577			-26,094	-9.01
1939	284,335	263,483	20,852	7.91		
1940	274,986	284,335			-9,349	-3.29
1941	269,929	274,986			-5,057	-1.84
1942	259,912	269,929			-10,017	-3.71
1943	265,963	259,912	6,051	2.33		
1944	277,461	265,963	11,498	4.32		
1945	286,737	277,461	9,276	3.34		
1946	313,849	286,737	27,112	9.46		
1947	349,595	313,849	35,746	11.39		
1949	344,099	349,595			-5,496	-1.57
1950	402,805	344,099	58,706	17.06		
1951	383,421	402,805			-19,384	-4.81
1952	381,316	383,421			-2,105	-0.55
1953	442,066	381,316	60,750	15.93		
1954	532,200	442,066	90,134	20.39		
1955	601,357	532,065	69,292	13.02		
1956	610,825	601,357	9,468	1.57		
1957	664,406	610,825	53,580	8.77		
1958	705,780	664,413	41,367	6.23		
1959	725,647	705,773	19,874	2.82		
1960	795,196	725,647	69,549	9.58		
1961	867,731	795,196	72,535	9.12		
1962	929,005	867,724	61,280	7.06		
1963	993,077	928,998	64,079	6.90		
1964	1,069,330	989,072	80,258	8.11		
1965	1,163,623	1,069,330	94,293	8.82		
1966	1,271,783	1,163,623	108,160	9.30		
1967	1,308,266	1,271,783	36,483	2.87		
1968	1,345,200	1,308,266	36,934	2.82		
1969	1,462,290	1,345,200	117,090	8.70		
1970	1,637,061	1,462,290	174,771	11.95		

APPENDIX 3.F VALUE OF PRODUCTION

The Value of Production " ... represents the selling value at the factory of all articles manufactured, assembled or processed. It also includes the value of other work done such as repair work. In general it comprises the total costs of salaries and wages, other expenses of manufacturing and materials used, plus a margin for factory profit.

"In making use of the gross value of products it must be borne in mind that the figures include the value of raw materials operated upon, which value in recent years constitutes approximately three-fifths of the value of products. Where the products of one industry - for example, sawmilling - are again treated in other industries, such as furniture making, joinery, etc., part of the value of the timber shown as products of the former industry appears again as the materials of the latter industry and enters into the value of furniture and joinery made. Duplication of this kind is found in many industries.

"In a number of cases, articles produced are transferred at cost to separate selling departments or warehouses, or to retail stores run by the same company or establishment. Where this is apparent, the factory proprietor is asked to give a commercial value for the production concerned. The same procedure holds where a proprietor controls more than one factory, and transfers the products of one to the other for

processing. It must be recognised that estimated values have to be accepted in many transactions of this kind." (Statistics of Industrial Production For The Production Year 1970-71, p9)

Table 3:38 shows the deletion of the values for Gas, Electricity and Tramways. In Table 3:39 nominal pounds are converted to nominal dollars and then nominal dollars are converted to constant 1984 dollars. Table 3:40 shows changes in the value of the product on an annual basis and provides, other things being equal (see the maintext Chapter 2 for the qualifications) an indicator of fluctuations of economic activity in the sector.

Data for these tables is taken from the following sources: for 1923 to 1930: Statistics of Factory Production, 1930-31, p7, "Factory Production-Materials & Products"; for 1930 to 1938: Statistics Of Factory And Building Production, 1938-39, p9; for 1939 to 1942: Statistics Of Factory Production, 1942-43, p8; for 1943 & 1944: Statistics of Factory Production, 1944-45 & 1945-46; for 1946 to 1950: Statistics Of Factory Production, 1948-49 & 1949-50; for 1951 to 1970: Statistics Of Industrial Production, 1970-71, p17, "Factories: Historical Survey".

TABLE 3:38 VALUE OF PRODUCTION, THOUSANDS NOMINAL POUNDS
N.Z. FACTORY PRODUCTION, 1923-1950

	----------THOUSANDS OF NOMINAL POUNDS----------				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923	75,434	1,569	1,431	1,563	70,871
1924	82,479	1,556	1,669	1,622	77,632
1925	83,435	1,556	2,325	1,608	77,946
1926	81,372	1,554	2,916	1,646	75,256
1927	86,119	1,543	3,446	1,613	79,517
1928	91,565	1,531	3,833	1,607	84,594
1929	91,916	1,557	4,308	1,549	84,502
1930	79,215	1,578	4,446	1,530	71,661
1931	66,589	1,475	4,362	0	60,752
1932	66,109	1,409	4,542	0	60,158
1933	71,771	1,377	4,485	0	65,909
1934	79,324	1,364	4,646	0	73,314
1935	90,015	1,381	4,868	0	83,766
1936	105,942	1,425	5,138	0	99,379
1937	113,692	1,498	5,692	0	106,502
1938	114,447	1,527	6,312	0	106,608
1939	129,062	1,612	7,126	0	120,324
1940	147,154	1,675	8,079	0	137,400
1941	155,566	1,670	8,258	0	145,638
1942	165,936	1,759	8,399	0	155,778
1943	175,869	1,860	8,989	0	165,020
1944	189,801	1,960	9,255	0	178,586
1945	195,259	2,020	9,696	0	183,543
1946	218,106	2,053	10,403	0	205,650
1947	272,155	2,140	10,627	0	259,388
1949	331,704	2,430	12,790	0	316,484
1950	395,046	2,914	13,465	0	378,667
1951					
1952					
1953					
1954					
1955					
1956					
1957					
1958					
1959					
1960					
1961					
1962					
1963					
1964					
1965					
1966					
1967					
1968					
1969					
1970					

TABLE 3:39 VALUE OF PRODUCTION, CONSTANT (1985) DOLLARS
N.Z. FACTORY PRODUCTION, 1923-1970

	THOUSANDS NOMINAL		WHOLESALE PRICE INDEX	THOUSANDS CONSTANT
	POUNDS	DOLLARS	HOME PRODUCED	DOLLARS
1923	70,871	141,742	130	2,350,326
1924	77,632	155,264	135	2,485,985
1925	77,946	155,892	136	2,477,776
1926	75,256	150,512	130	2,495,748
1927	79,517	159,034	126	2,727,273
1928	84,594	169,188	127	2,863,723
1929	84,502	169,004	127	2,870,407
1930	71,661	143,322	122	2,533,980
1931	60,752	121,504	108	2,426,705
1932	60,158	120,316	102	2,544,330
1933	65,909	131,818	100	2,843,314
1934	73,314	146,628	103	3,070,647
1935	83,766	167,532	111	3,255,554
1936	99,379	198,758	114	3,760,711
1937	106,502	213,004	122	3,765,981
1938	106,608	213,216	125	3,679,255
1939	120,324	240,648	133	3,902,840
1940	137,400	274,800	136	4,358,409
1941	145,638	291,276	144	4,363,072
1942	155,778	311,556	151	4,450,505
1943	165,020	330,040	153	4,652,917
1944	178,586	357,172	156	4,938,590
1945	183,543	367,086	159	4,979,903
1946	205,650	411,300	162	5,476,383
1947	259,388	518,776	173	6,468,207
1949	316,484	632,968	194	7,037,691
1950	378,667	757,334	221	7,391,717
1951		861,968	257	7,234,494
1952		927,880	279	7,173,610
1953		990,426	295	7,241,861
1954		1,101,236	309	7,687,269
1955		1,171,884	309	8,180,433
1956		1,204,082	326	7,966,886
1957		1,289,858	323	8,613,696
1958		1,318,910	331	8,594,830
1959		1,411,234	335	9,086,662
1960		1,513,600	338	9,659,276
1961		1,613,016	336	10,354,987
1962		1,681,244	333	10,890,220
1963		1,924,084	339	12,242,623
1964		2,185,206	357	13,203,051
1965		2,374,447	368	13,917,615
1966		2,483,742	374	14,324,683
1967		2,538,349	380	14,408,471
1968		2,790,448	399	15,085,204
1969		3,152,869	420	16,192,234
1970		3,597,403	445	17,437,299
Dec 1984			2,157	

TABLE 3:40 VALUE OF PRODUCTION, CHANGE & % CHANGE
N.Z. FACTORY PRODUCTION, 1923-1970

	----THOUSANDS CONSTANT DOLLARS----					
		PR.	----INCREASE-----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	2,350,326					
1924	2,485,985	2,350,326	135,659	5.77		
1925	2,477,776	2,485,985			-8,209	-0.33
1926	2,495,748	2,477,776	17,972	0.73		
1927	2,727,273	2,495,748	231,525	9.28		
1928	2,863,723	2,727,273	136,450	5.00		
1929	2,870,407	2,863,723	6,684	0.23		
1930	2,533,980	2,870,407			-336,427	-11.72
1931	2,426,705	2,533,980			-107,275	-4.23
1932	2,544,330	2,426,705	117,625	4.85		
1933	2,843,314	2,544,330	298,985	11.75		
1934	3,070,647	2,843,314	227,332	8.00		
1935	3,255,554	3,070,647	184,908	6.02		
1936	3,760,711	3,255,554	505,156	15.52		
1937	3,765,981	3,760,711	5,270	0.14		
1938	3,679,255	3,765,981			-86,725	-2.30
1939	3,902,840	3,679,255	223,585	6.08		
1940	4,358,409	3,902,840	455,569	11.67		
1941	4,363,072	4,358,409	4,663	0.11		
1942	4,450,505	4,363,072	87,433	2.00		
1943	4,652,917	4,450,505	202,412	4.55		
1944	4,938,590	4,652,917	285,673	6.14		
1945	4,979,903	4,938,590	41,313	0.84		
1946	5,476,383	4,979,903	496,481	9.97		
1947	6,468,207	5,476,383	991,824	18.11		
1949	7,037,691	6,468,207	569,483	8.80		
1950	7,391,717	7,037,691	354,026	5.03		
1951	7,234,494	7,391,717			-157,223	-2.13
1952	7,173,610	7,234,494			-60,884	-0.84
1953	7,241,861	7,173,610	68,251	0.95		
1954	7,687,269	7,241,861	445,408	6.15		
1955	8,180,433	7,687,269	493,164	6.42		
1956	7,966,886	8,180,433				
1957	8,613,696	7,966,886	646,810	8.12		
1958	8,594,830	8,613,696			-18,865	-0.22
1959	9,086,662	8,594,830	491,831	5.72		
1960	9,659,276	9,086,662	572,614	6.30		
1961	10,354,987	9,659,276	695,711	7.20		
1962	10,890,220	10,354,987	535,234	5.17		
1963	12,242,623	10,890,220	1,352,403	12.42		
1964	13,203,051	12,242,623	960,428	7.84		
1965	13,917,615	13,203,051	714,563	5.41		
1966	14,324,683	13,917,615	407,069	2.92		
1967	14,408,471	14,324,683	83,787	0.58		
1968	15,085,204	14,408,471	676,733	4.70		
1969	16,192,234	15,085,204	1,107,031	7.34		
1970	17,437,299	16,192,234	1,245,065	7.69		

APPENDIX 3.G PLANT & PREMISES

3:G VALUE OF PLANT & PREMISES

In official reports, the value of plant and premises "... are shown at book value at the manufacturers' balance dates. Values are apportioned in an estimated basis where only part of the assets are used in manufacturing and where the same assets are used in more than one industry.

"Being book values the figures should be treated with caution. Understatements of value may occur through appreciation of the site value, and excessive allowance for depreciation, whereas overstatements may occur because of insufficient allowance for depreciation and obsolescence.

"Where assets are rented an estimated value of premises and plant is recorded in these statistics. The rent paid for land and buildings is capitalised at 7 percent and that for plant and machinery at 10 percent." (Statistics Of Industrial Production For The Year 1970-71, p9)

This definition is clear enough and requires no further comment. Marxian equivalents for the terms "depreciation" and "obsolescence" (re-valorisation and moral depreciation) are discussed in chapter four of

the main text.

Table 3:41 shows the deletion of the values for Gas, Electricity and Tramways. Table 3.42 converts the nominal pounds to nominal dollars and then converts the nominal dollars to constant (1984) dollars using the formula stated in Appendix 1. Table 3:43 shows the changes in the value of fixed capital assets year by year.

Data for the whole sector is taken from the following sources: for 1923 to 1930: Statistics Of Factory Production, 1931-32, p1, "Factory Production. - Principal Statistics"; for 1931 to 1950: Statistics Of Factory Production, 1951-52, "Principal Statistics, 1910-11, 1915-16, 1918-19 to 1951-52"; for 1951 to 1970: Statistics Of Industrial Production, 1970-71, p17, "Factories: Historical Survey".

Sources for the Gas, Electricity and Tramways industries are as follows: for 1923 to 1930: Statistics Of Factory Production, 1930-31, p4, "Value Of Land, ETC., And Added Value"; for 1931 to 1938: Statistics Of Factory And Building Production, 1938-39, p7, "Value Of Land, ETC., And Added Value; for 1939 to 1942: Statistics Of Factory Production, 1943-44, p5, "Value Of Land, ETC., And Added Value, 1936-37 to 1943-44";

APPENDIX 3.G PLANT & PREMISES

for 1944 to 1947: Statistics Of Factory Production, 1948-49 and 1949-50, p5; for 1949 and 1950: Statistics Of Factory Production, 1950-51, p17.

TABLE 3:41 VALUE OF PLANT & PREMISES, NOMINAL POUNDS
N.Z. FACTORY PRODUCTION, 1923-1950

	---------THOUSANDS OF NOMINAL POUNDS----------				
	MANUFACTURE	GAS	ELECT	TRAM	FACTORY PRODUCTION
1923	45,498	3,943	7,830	4,014	29,711
1924	49,979	3,945	9,726	4,702	31,606
1925	59,150	4,274	16,649	4,761	33,466
1926	62,723	4,538	18,911	5,066	34,208
1927	64,674	4,505	20,546	5,037	34,586
1928	67,338	4,862	22,101	5,138	35,237
1929	71,655	4,886	25,140	5,297	36,332
1930	72,414	5,032	26,374	5,596	35,412
1931	65,907	5,062	27,141		33,704
1932	65,855	5,095	27,103		33,657
1933	64,390	4,994	26,752		32,644
1934	67,268	5,052	29,162		33,054
1935	67,439	4,369	29,240		33,830
1936	69,597	4,176	30,351		35,070
1937	72,739	4,205	31,511		37,023
1938	76,498	4,147	33,073		39,278
1939	80,573	4,163	34,677		41,733
1940	83,755	4,114	36,719		42,922
1941	87,128	4,066	38,593		44,469
1942	88,254	4,026	38,827		45,401
1943	90,740	4,042	39,989		46,709
1944	96,991	4,029	43,433		49,529
1945	103,891	3,996	47,375		52,520
1946	113,520	4,088	52,857		56,575
1947	132,813	4,266	64,251		64,296
1949	162,294	4,607	79,657		78,030
1950	179,791	4,814	86,937		88,040
1951					
1952					
1953					
1954					
1955					
1956					
1957					
1958					
1959					
1960					
1961					
1962					
1963					
1964					
1965					
1966					
1967					
1968					
1969					
1970					

TABLE 3:42 VALUE OF PLANT & PREMISES, CONSTANT (1984) DOLLARS
N.Z. FACTORY PRODUCTION, 1923-1970

	----THOUSANDS----- -----NOMINAL------ POUNDS	DOLLARS	WHOLESALE PRICE INDEX IMPORTED	THOUSANDS CONSTANT DOLLARS
1923	29,711	59,422	115	1,115,054
1924	31,606	63,212	113	1,203,703
1925	33,466	66,932	112	1,293,659
1926	34,208	68,416	105	1,410,498
1927	34,586	69,172	98	1,519,265
1928	35,237	70,474	96	1,583,859
1929	36,332	72,664	95	1,649,855
1930	35,412	70,824	93	1,642,660
1931	33,704	67,408	91	1,597,792
1932	33,657	67,314	91	1,595,564
1933	32,644	65,288	96	1,466,940
1934	33,054	66,108	95	1,501,000
1935	33,830	67,660	95	1,536,238
1936	35,070	70,140	95	1,592,547
1937	37,023	74,046	103	1,550,653
1938	39,278	78,556	104	1,629,282
1939	41,733	83,466	106	1,698,454
1940	42,922	85,844	125	1,481,324
1941	44,469	88,938	140	1,370,280
1942	45,401	90,802	154	1,271,818
1943	46,709	93,418	170	1,185,310
1944	49,529	99,058	175	1,220,961
1945	52,520	105,040	178	1,272,872
1946	56,575	113,150	177	1,378,896
1947	64,296	128,592	181	1,532,447
1949	78,030	156,060	199	1,691,565
1950	88,040	176,080	211	1,800,022
1951		195,044	246	1,710,203
1952		218,200	278	1,693,012
1953		244,538	264	1,997,987
1954		276,548	252	2,367,119
1955		337,146	256	2,840,718
1956		360,246	263	2,954,565
1957		378,574	270	3,024,386
1958		411,772	279	3,183,485
1959		448,454	286	3,382,221
1960		498,610	282	3,813,836
1961		561,080	283	4,276,500
1962		634,720	283	4,837,778
1963		673,922	289	5,029,930
1964		747,298	289	5,577,584
1965		853,540	295	6,240,969
1966		948,392	300	6,818,938
1967		989,558	311	6,863,269
1968		1,049,549	348	6,505,394
1969		1,215,965	364	7,205,595
1970		1,329,125	387	7,408,069
Dec 1984			2,157	

TABLE 3:43 VALUE OF PLANT & PREMISES, CHANGE & % CHANGE
N.Z. FACTORY PRODUCTION, 1923-1970

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	1,115,054					
1924	1,203,703	1,115,054	88,649	7.95		
1925	1,293,659	1,203,703	89,956	7.47		
1926	1,410,498	1,293,659	116,839	9.03		
1927	1,519,265	1,410,498	108,768	7.71		
1928	1,583,859	1,519,265	64,593	4.25		
1929	1,649,855	1,583,859	65,997	4.17		
1930	1,642,660	1,649,855			-7,195	-0.44
1931	1,597,792	1,642,660			-44,868	-2.73
1932	1,595,564	1,597,792			-2,228	-0.14
1933	1,466,940	1,595,564			-128,624	-8.06
1934	1,501,000	1,466,940	34,060	2.32		
1935	1,536,238	1,501,000	35,239	2.35		
1936	1,592,547	1,536,238	56,309	3.67		
1937	1,550,653	1,592,547			-41,895	-2.63
1938	1,629,282	1,550,653	78,629	5.07		
1939	1,698,454	1,629,282	69,173	4.25		
1940	1,481,324	1,698,454			-217,130	-12.78
1941	1,370,280	1,481,324			-111,044	-7.50
1942	1,271,818	1,370,280			-98,463	-7.19
1943	1,185,310	1,271,818			-86,508	-6.80
1944	1,220,961	1,185,310	35,651	3.01		
1945	1,272,872	1,220,961	51,912	4.25		
1946	1,378,896	1,272,872	106,023	8.33		
1947	1,532,447	1,378,896	153,551	11.14		
1949	1,691,565	1,532,447	159,118	10.38		
1950	1,800,022	1,691,565	108,457	6.41		
1951	1,710,203	1,800,022			-89,819	-4.99
1952	1,693,012	1,710,203			-17,191	-1.01
1953	1,997,987	1,693,012	304,974	18.01		
1954	2,367,119	1,997,987	369,133	18.48		
1955	2,840,718	2,367,119	473,599	20.01		
1956	2,954,565	2,840,718	113,847	4.01		
1957	3,024,386	2,954,565	69,821	2.36		
1958	3,183,485	3,024,386	159,099	5.26		
1959	3,382,221	3,183,485	198,737	6.24		
1960	3,813,836	3,382,221	431,615	12.76		
1961	4,276,500	3,813,836	462,664	12.13		
1962	4,837,778	4,276,500	561,277	13.12		
1963	5,029,930	4,837,778	192,152	3.97		
1964	5,577,584	5,029,930	547,654	10.89		
1965	6,240,969	5,577,584	663,385	11.89		
1966	6,818,938	6,240,969	577,970	9.26		
1967	6,863,269	6,818,938	44,330	0.65		
1968	6,505,394	6,863,269			-357,875	-5.21
1969	7,205,595	6,505,394	700,201	10.76		
1970	7,408,069	7,205,595	202,474	2.81		

APPENDIX 4. DAIRY FACTORIES

CO-OPERATIVE DAIRY COMPANIES

In the preceding appendix data are excluded because over time inconsistencies crept into the series as the range of activities covered by the survey altered. In this appendix all values for an industry are deleted because its accounting procedures are not consistent with other industries.

In New Zealand co-operative dairy companies do not purchase their raw materials (milk and cream) in the way that other manufacturers do. Dairy factories are collectively owned and operated by the farmers who supply them. The factories collect milk and cream from the shareholding farmers, process it and pay out to shareholders all "the realised value of the products, less amounts transferred to reserves. Manufacturing surplus shown by these companies is therefore confined to the amount of transfers to the reserves." (Statistics of Industrial Production, 1970-71, "Introductory", p9)

Butter and Cheese factories, classified under Industry 210, "are run on a co-operative basis by dairy farmers. Farmers are not paid directly for milk and cream supplied but share in the total proceeds of

the final sale of manufactures. This payment is treated in the statistics as cost of raw materials. Judged by standards obtaining in all other industries, this means that the cost of raw materials is overstated and net output understated. Further, any surplus shown in the industry must necessarily be small, consisting of undistributed surpluses only (transfers to reserves, other appropriations, and balances in hand)". (ibid, p77)

If the series are not adjusted for this irregularity the cost of raw materials, and consequently the organic composition, is exaggerated. At the same time the mass of surplus-value, and therefore also the rate of profit and exploitation, are understated.

In 1970 Industry 210 included 141 establishments employing 2,472 people with a product valued at 189,125,000 nominal dollars. That makes it a significant contributor to Factory Production. To neutralise the misleading effect of the different accounting practices of this industry on our calculations, the industry must be excluded from our data base.

APPENDIX 4. DAIRY FACTORIES

Unfortunately the exclusion of activities covered by industrial classification 211 (Other Milk Products not including Processed Cheese or Ice cream) is therefore unavoidable. Some of the key aggregates, fixed capital assets for example, are reported only as a combined total for 210 & 211.

The quantitative consequence of excluding dairy factories is that a significant portion of the total activity of factory production disappears from the data set. The qualitative effect is that our data fail to capture adequately the real interdependence of agriculture and industry in New Zealand. As a result actual cyclical movements are to some extent distorted. (see the discussion in chapters 4 & 5 of the main text).

The sector totals in this appendix are brought forward from Appendix 3. Data sources for dairy factories and gas, electricity and tramways are the same until 1950. These are cited in Appendix 3 and not restated here. From 1950 dairy factory data is taken from both annual reports and official summaries according to our standard procedure (outlined in the introduction to this volume).

APPENDIX 4. DAIRY FACTORIES

The layout to this appendix is similar to Appendix 3, except for (1) the absence of sections, (2) not all the steps in Appendix 3 have been retraced here and (3) some new tables have been introduced. These new tables are: Tables 4:16, 4:17 & 4:18: which show the weight of Persons Engaged in Revised Factory Production relative to the New Zealand "Labour Force"[ ]; Table 4:28: which estimates interest payments for dairy factories (To make these estimates the ratio between fixed assets and known interest payments is established. The annual averages is then averaged and this ratio is used as the basis for the estimates); and Table 4:40: which duplicates the format of tables in Appendix 2, and shows the Value of Production over time comparing actual, constant and average growth rates.

The tables follow in the same general order as those in Appendix 3 and have a similar format. The heading "Factory Production" identifies data brought forward from Appendix 3 and "Revised Factory Production (Rev. Fact Production)" indicates the values for dairy factories are excluded.

TABLE 4:1 NUMBER OF ESTABLISHMENTS
REVISED FACTORY PRODUCTION, 1923-70

	NUMBER OF ESTABLISHMENTS			
	FACTORY PRODUCTION	BUTTER & CHEESE	OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923	4,315	431		3,884
1924	4,399	445		3,954
1925	4,631	445		4,186
1926	4,930	518		4,412
1927	5,012	507		4,505
1928	4,984	490		4,494
1929	5,025	491		4,534
1930	5,047	482		4,565
1931	4,823	480		4,343
1932	4,848	478		4,370
1933	4,884	482		4,402
1934	5,125	485		4,640
1935	5,392	469		4,923
1936	5,584	469		5,115
1937	5,780	438		5,342
1938	6,002	429		5,573
1939	6,199	424		5,775
1940	6,253	416		5,837
1941	6,227	428		5,799
1942	5,987	410		5,577
1943	6,062	409		5,653
1944	6,340	402		5,938
1945	6,847	394		6,453
1946	7,498	389		7,109
1947	7,825	385		7,440
1949	7,887	379		7,508
1950	8,178	375		7,803
1951	8,546	349	79	8,118
1952	8,511	340	78	8,093
1953	8,377	326	80	7,971
1954	8,366	318	82	7,966
1955	8,515	292	99	8,124
1956	8,488	285	90	8,113
1957	8,529	277	104	8,148
1958	8,565	252	108	8,205
1959	8,550	260	104	8,186
1960	8,745	250	95	8,400
1961	8,981	241	80	8,660
1962	9,034	234	77	8,723
1963	9,365	217	75	9,073
1964	9,753	205	73	9,475
1965	9,944	182	70	9,692
1966	10,394	171	70	10,153
1967	10,397	165	66	10,166
1968	10,501	158	68	10,275
1969	10,573	146	67	10,360
1970	10,587	141	64	10,382

TABLE 4:2 NUMBER OF PERSONS ENGAGED
REVISED FACTORY PRODUCTION, 1923-1970

	NUMBER OF PERSONS ENGAGED		
	FACTORY PRODUCTION	BUTTER & CHEESE PLUS OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923	71,252	4,212	67,040
1924	73,766	4,321	69,445
1925	74,353	4,324	70,029
1926	74,321	4,140	70,181
1927	74,546	3,996	70,550
1928	69,173	4,288	64,885
1929	78,606	4,228	74,378
1930	73,420	4,184	69,236
1931	64,187	3,991	60,196
1932	64,515	4,137	60,378
1933	68,090	4,346	63,744
1934	74,721	3,787	70,934
1935	81,799	4,062	77,737
1936	91,281	4,318	86,963
1937	96,997	4,128	92,869
1938	96,854	3,944	92,910
1939	102,842	3,859	98,983
1940	108,140	4,080	104,060
1941	111,589	4,495	107,094
1942	109,228	3,983	105,245
1943	112,439	3,900	108,539
1944	116,803	4,001	112,802
1945	121,979	4,014	117,965
1946	128,423	4,059	124,364
1947	134,147	4,088	130,059
1949	137,898	4,403	133,495
1950	141,809	4,485	137,324
1951	144,370	4,518	139,852
1952	143,180	4,652	138,528
1953	146,426	4,566	141,860
1954	153,558	4,546	149,012
1955	158,238	4,580	153,658
1956	156,752	4,680	152,072
1957	162,985	4,817	158,168
1958	168,772	4,586	164,186
1959	172,106	4,624	167,482
1960	180,436	4,556	175,880
1961	187,579	4,485	183,094
1962	191,515	4,555	186,960
1963	199,266	4,304	194,962
1964	211,050	4,405	206,645
1965	222,851	4,334	218,517
1966	229,302	4,664	224,638
1967	225,734	4,712	221,022
1968	229,074	4,530	224,544
1969	241,059	4,250	236,809
1970	251,425	4,675	246,750

TABLE 4:3 FEMALE PROPRIETORS
REVISED FACTORY PRODUCTION, 1923-1970

	NUMBER OF FEMALE PROPRIETORS		
	FACTORY PRODUCTION	BUTTER & CHEESE PLUS OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923			
1924			
1925	69	0	69
1926	65	0	65
1927	58	0	58
1928	80	0	80
1929	75	0	75
1930	77	0	77
1931	84	0	84
1932	87	0	87
1933	94	0	94
1934	109	1	108
1935	115	1	114
1936	120	1	119
1937	125	0	125
1938	132	0	132
1939	116	0	116
1940	130	0	130
1941	143	0	143
1942	148	0	148
1943	161	0	161
1944	162	0	162
1945	182	0	182
1946	208	0	208
1947	196	0	196
1949	165	0	165
1950	194	0	194
1951	201	0	201
1952	190	0	190
1953	206	0	206
1954	149	0	149
1955	139	0	139
1956	152	0	152
1957	138	0	138
1958	142	0	142
1959	116	0	116
1960	136	0	136
1961	122	0	122
1962	138	0	138
1963	131	0	131
1964	149	0	149
1965	142	0	142
1966	128	0	128
1967	133	0	133
1968	148	0	148
1969	154	0	154
1970	130	0	130

TABLE 4:4 FEMALE MANAGERS & OVERSEERS
REVISED FACTORY PRODUCTION, 1923-70

	-----NUMBER OF FEMALE MANAGERS & OVERSEERS-----		
	FACTORY PRODUCTION	BUTTER & CHEESE PLUS OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923			
1924			
1925	131	0	131
1926	107	0	107
1927	103	0	103
1928	120	0	120
1929	131	0	131
1930	136	0	136
1931	121	0	121
1932	127	0	127
1933	128	0	128
1934	141	0	141
1935	139	0	139
1936	168	0	168
1937	160	0	160
1938	219	1	218
1939	234	1	233
1940	243	0	243
1941	282	0	282
1942	285	0	285
1943	331	0	331
1944	363	0	363
1945	365	0	365
1946	427	0	427
1947	416	0	416
1949	343	0	343
1950	385	0	385
1951	413	0	413
1952	373	0	373
1953	383	0	383
1954	386	0	386
1955	404	0	404
1956	413	0	413
1957	445	0	445
1958	474	0	474
1959	473	0	473
1960	488	0	488
1961	478	0	478
1962	481	0	481
1963	552	0	552
1964	592	0	592
1965	631	0	631
1966	680	0	680
1967	713	0	713
1968	832	0	832
1969	921	0	921
1970	941	0	941

TABLE 4:5 FEMALE ACCOUNTANTS & CLERKS
REVISED FACTORY PRODUCTION, 1923-70

	-----NUMBER OF FEMALE ACCOUNTANTS & CLERKS-----			
	FACTORY PRODUCTION	BUTTER & CHEESE	OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923				
1924				
1925	1,878	160		1,718
1926	1,943	159		1,784
1927	2,077	166		1,911
1928	2,181	165		2,016
1929	2,346	163		2,183
1930	2,246	177		2,069
1931	2,263	239		2,024
1932	2,284	253		2,031
1933	2,284	243		2,041
1934	2,396	220		2,176
1935	2,630	260		2,370
1936	2,775	295		2,480
1937	2,940	270		2,670
1938	3,130	280		2,850
1939	3,415	296		3,119
1940	3,696	328		3,368
1941	4,170	360		3,810
1942	4,461	363		4,098
1943	4,604	366		4,238
1944	4,597	329		4,268
1945	4,755	315		4,440
1946	4,793	307		4,486
1947	4,781	294		4,487
1949	4,553	276		4,277
1950	4,807	282		4,525
1951	4,725	271		4,454
1952	4,910	320		4,590
1953	4,722	193	40	4,489
1954	5,059	202	41	4,816
1955	5,498	198	38	5,262
1956	5,640	187	39	5,414
1957	6,057	188	48	5,821
1958	6,305	178	53	6,074
1959	6,605	163	53	6,389
1960	6,901	150	56	6,695
1961	7,310	138	54	7,118
1962	7,471	144	53	7,274
1963	7,796	137	51	7,608
1964	8,604	141	56	8,407
1965	9,187	128	60	8,999
1966	9,550	131	62	9,357
1967	9,719	126	65	9,528
1968	10,114	128	56	9,930
1969	10,592	133	58	10,401
1970	10,699	122	61	10,516

TABLE 4:6 FEMALE WAGE EARNERS
REVISED FACTORY PRODUCTION, 1923-70

	NUMBER OF FEMALE WAGE EARNERS			
	FACTORY PRODUCTION	BUTTER & CHEESE	OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923				
1924				
1925	12,263	52		12,211
1926	12,475	41		12,434
1927	13,149	42		13,107
1928	13,740	45		13,695
1929	14,392	44		14,348
1930	14,001	39		13,962
1931	12,956	47		12,909
1932	13,614	56		13,558
1933	14,477	67		14,410
1934	16,482	57		16,425
1935	18,135	67		18,068
1936	20,943	65		20,878
1937	22,550	73		22,477
1938	21,737	66		21,671
1939	24,313	64		24,249
1940	27,705	90		27,615
1941	29,973	114		29,859
1942	30,461	152		30,309
1943	30,380	174		30,206
1944	30,759	162		30,597
1945	29,597	103		29,494
1946	27,544	103		27,441
1947	28,124	92		28,032
1949	29,668	105		29,563
1950	31,355	105		31,250
1951	32,175	107		32,068
1952	30,447	107		30,340
1953	31,752	41	48	31,663
1954	33,659	42	41	33,576
1955	34,007	49	52	33,906
1956	32,712	49	46	32,617
1957	34,506	45	45	34,416
1958	36,207	50	51	36,106
1959	36,112	58	75	35,979
1960	38,073	39	63	37,971
1961	39,279	41	60	39,178
1962	39,382	55	83	39,244
1963	41,604	55	93	41,456
1964	43,745	59	117	43,569
1965	47,295	57	115	47,123
1966	48,580	80	99	48,401
1967	46,361	92	92	46,177
1968	46,145	80	106	45,959
1969	49,654	70	60	49,524
1970	52,936	71	115	52,750

TABLE 4:7 FEMALE TECHNICIANS
REVISED FACTORY PRODUCTION, 1923-70

	FEMALE TECHNICIANS			
	FACTORY PRODUCTION	BUTTER & CHEESE	OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923	0			0
1924	0			0
1925	0			0
1926	0			0
1927	0			0
1928	0			0
1929	0			0
1930	0			0
1931	0			0
1932	0			0
1933	0			0
1934	0			0
1935	0			0
1936	0			0
1937	0			0
1938	0			0
1939	0			0
1940	0			0
1941	0			0
1942	0			0
1943	0			0
1944	0			0
1945	0			0
1946	0			0
1947	0			0
1949	0			0
1950	0			0
1951	0			0
1952	0			0
1953	0			0
1954	0			0
1955	0			0
1956	0			0
1957	0			0
1958	0			0
1959	0			0
1960	0			0
1961	0			0
1962	196	1	10	185
1963	213	2	10	201
1964	256	2	15	239
1965	323	2	15	306
1966	310	2	18	290
1967	350	2	19	329
1968	363	4	16	343
1969	409	3	19	387
1970	442	3	20	419

TABLE 4:8 FEMALE PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
REVISED FACTORY PRODUCTION, 1923-70

	-PROPRIETORS-		-MANAGERS &-- --OVERSEERS--		ACCOUNTANTS &- ----CLERKS----		-----WAGE----- ---EARNERS----		-TECHNICIANS-		----TOTAL-----	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
1923												
1924												
1925	69	0.5	131	0.9	1,718	12.2	12,211	86.4	0	0.0	14,129	100.0
1926	65	0.5	107	0.7	1,784	12.4	12,434	86.4	0	0.0	14,390	100.0
1927	58	0.4	103	0.7	1,911	12.6	13,107	86.3	0	0.0	15,179	100.0
1928	80	0.5	120	0.8	2,016	12.7	13,695	86.1	0	0.0	15,911	
1929	75	0.4	131	0.8	2,183	13.0	14,348	85.7	0	0.0	16,737	
1930	77	0.5	136	0.8	2,069	12.7	13,962	86.0	0	0.0	16,244	100.0
1931	84	0.6	121	0.8	2,024	13.4	12,909	85.3	0	0.0	15,138	100.0
1932	87	0.6	127	0.8	2,031	12.9	13,558	85.8	0	0.0	15,803	100.0
1933	94	0.6	128	0.8	2,041	12.2	14,410	86.4	0	0.0	16,673	100.0
1934	108	0.6	141	0.7	2,176	11.5	16,425	87.1	0	0.0	18,850	100.0
1935	114	0.6	139	0.7	2,370	11.5	18,068	87.3	0	0.0	20,691	100.0
1936	119	0.5	168	0.7	2,480	10.5	20,878	88.3	0	0.0	23,645	100.0
1937	125	0.5	160	0.6	2,670	10.5	22,477	88.4	0	0.0	25,432	100.0
1938	132	0.5	218	0.9	2,850	11.5	21,671	87.1	0	0.0	24,871	100.0
1939	116	0.4	233	0.8	3,119	11.3	24,249	87.5	0	0.0	27,717	100.0
1940	130	0.4	243	0.8	3,368	10.7	27,615	88.1	0	0.0	31,356	100.0
1941	143	0.4	282	0.8	3,810	11.2	29,859	87.6	0	0.0	34,094	100.0
1942	148	0.4	285	0.8	4,098	11.8	30,309	87.0	0	0.0	34,840	100.0
1943	161	0.5	331	0.9	4,238	12.1	30,206	86.5	0	0.0	34,936	100.0
1944	162	0.5	363	1.0	4,268	12.1	30,597	86.5	0	0.0	35,390	100.0
1945	182	0.5	365	1.1	4,440	12.9	29,494	85.5	0	0.0	34,481	100.0
1946	208	0.6	427	1.3	4,486	13.8	27,441	84.3	0	0.0	32,562	100.0
1947	196	0.6	416	1.3	4,487	13.5	28,032	84.6	0	0.0	33,131	100.0

TABLE 4:8 FEMALE PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
REVISED FACTORY PRODUCTION, 1923-70

	-PROPRIETORS-		-MANAGERS &-- --OVERSEERS--		ACCOUNTANTS &- ----CLERKS----		-----WAGE----- ---EARNERS----		-TECHNICIANS-		----TOTAL-----	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
1949	165	0.5	343	1.0	4,277	12.5	29,563	86.1	0	0.0	34,348	100.0
1950	194	0.5	385	1.1	4,525	12.4	31,250	86.0	0	0.0	36,354	100.0
1951	201	0.5	413	1.1	4,454	12.0	32,068	86.4	0	0.0	37,136	100.0
1952	190	0.5	373	1.1	4,590	12.9	30,340	85.5	0	0.0	35,493	100.0
1953	206	0.6	383	1.0	4,489	12.2	31,663	86.2	0	0.0	36,741	100.0
1954	149	0.4	386	1.0	4,816	12.4	33,576	86.3	0	0.0	38,927	100.0
1955	139	0.4	404	1.0	5,262	13.3	33,906	85.4	0	0.0	39,711	100.0
1956	152	0.4	413	1.1	5,414	14.0	32,617	84.5	0	0.0	38,596	100.0
1957	138	0.3	445	1.1	5,821	14.3	34,416	84.3	0	0.0	40,820	100.0
1958	142	0.3	474	1.1	6,074	14.2	36,106	84.4	0	0.0	42,796	100.0
1959	116	0.3	473	1.1	6,389	14.9	35,979	83.8	0	0.0	42,957	100.0
1960	136	0.3	488	1.1	6,695	14.8	37,971	83.8	0	0.0	45,290	100.0
1961	122	0.3	478	1.0	7,118	15.2	39,178	83.5	0	0.0	46,896	100.0
1962	138	0.3	481	1.0	7,274	15.4	39,244	82.9	185	0.4	47,322	100.0
1963	131	0.3	552	1.1	7,608	15.2	41,456	83.0	201	0.4	49,948	100.0
1964	149	0.3	592	1.1	8,407	15.9	43,569	82.3	239	0.5	52,956	100.0
1965	142	0.2	631	1.1	8,999	15.7	47,123	82.4	306	0.5	57,201	100.0
1966	128	0.2	680	1.2	9,357	15.9	48,401	82.2	290	0.5	58,856	100.0
1967	133	0.2	713	1.3	9,528	16.8	46,177	81.2	329	0.6	56,880	100.0
1968	148	0.3	832	1.5	9,930	17.4	45,959	80.3	343	0.6	57,212	100.0
1969	154	0.3	921	1.5	10,401	16.9	49,524	80.7	387	0.6	61,387	100.0
1970	130	0.2	941	1.5	10,516	16.2	52,750	81.5	419	0.6	64,756	100.0

TABLE 4:9 MALE PROPRIETORS
REVISED FACTORY PRODUCTION, 1923-70

	NUMBER MALE PROPRIETORS		
	FACTORY PRODUCTION	BUTTER & CHEESE PLUS OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923			
1924			
1925	2,533	19	2,514
1926	2,805	15	2,790
1927	2,776	21	2,755
1928	2,361	16	2,345
1929	2,580	15	2,565
1930	2,342	8	2,334
1931	2,093	7	2,086
1932	2,181	5	2,176
1933	2,218	10	2,208
1934	2,280	9	2,271
1935	2,360	6	2,354
1936	2,449	6	2,443
1937	2,560	2	2,558
1938	2,535	2	2,533
1939	2,503	2	2,501
1940	2,489	2	2,487
1941	2,308	1	2,307
1942	2,018	1	2,017
1943	2,049	0	2,049
1944	2,169	0	2,169
1945	2,595	0	2,595
1946	2,998	1	2,997
1947	3,103	1	3,102
1949	2,668	1	2,667
1950	2,571	0	2,571
1951	2,635	0	2,635
1952	2,491	0	2,491
1953	2,151	0	2,151
1954	2,027	0	2,027
1955	1,973	0	1,973
1956	1,852	0	1,852
1957	1,707	0	1,707
1958	1,650	0	1,650
1959	1,551	0	1,551
1960	1,588	0	1,588
1961	1,705	0	1,705
1962	1,707	0	1,707
1963	1,625	0	1,625
1964	1,719	0	1,719
1965	1,619	0	1,619
1966	1,685	0	1,685
1967	1,555	0	1,555
1968	1,539	0	1,539
1969	1,437	0	1,437
1970	1,335	0	1,335

TABLE 4:10 MALE MANAGERS & OVERSEERS
REVISED FACTORY PRODUCTION, 1923-70

	NUMBER OF MALE MANAGERS & OVERSEERS			
	FACTORY PRODUCTION	BUTTER & CHEESE	OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923				
1924				
1925	4,158	564		3,594
1926	4,176	546		3,630
1927	4,207	556		3,651
1928	4,447	566		3,881
1929	4,194	550		3,644
1930	4,449	550		3,899
1931	4,206	566		3,640
1932	4,048	544		3,504
1933	4,081	549		3,532
1934	4,013	513		3,500
1935	4,342	545		3,797
1936	4,664	528		4,136
1937	4,893	499		4,394
1938	5,026	495		4,531
1939	5,313	457		4,856
1940	5,509	460		5,049
1941	5,620	472		5,148
1942	5,753	450		5,303
1943	5,958	446		5,512
1944	6,240	433		5,807
1945	6,890	437		6,453
1946	7,430	450		6,980
1947	7,754	439		7,315
1949	7,727	416		7,311
1950	8,010	418		7,592
1951	8,309	408		7,901
1952	8,391	414		7,977
1953	8,582	327	58	8,197
1954	9,010	330	65	8,615
1955	9,704	305	78	9,321
1956	9,925	297	75	9,553
1957	10,303	289	76	9,938
1958	10,574	270	89	10,215
1959	10,938	282	71	10,585
1960	11,560	267	69	11,224
1961	11,998	259	73	11,666
1962	12,246	255	74	11,917
1963	13,024	237	62	12,725
1964	13,520	227	67	13,226
1965	14,096	209	71	13,816
1966	14,782	197	81	14,504
1967	15,034	190	77	14,767
1968	15,377	189	83	15,105
1969	15,415	180	84	15,151
1970	16,415	175	79	16,161

TABLE 4:11 MALE ACCOUNTANTS & CLERKS
REVISED FACTORY PRODUCTION, 1923-70

	NUMBER OF MALE ACCOUNTANTS & CLERKS			
	FACTORY PRODUCTION	BUTTER & CHEESE	OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923				
1924				
1925	4,494	625		3,869
1926	4,147	600		3,547
1927	4,195	613		3,582
1928	4,316	614		3,702
1929	4,475	631		3,844
1930	4,265	589		3,676
1931	4,029	541		3,488
1932	4,107	529		3,578
1933	4,228	539		3,689
1934	4,284	425		3,859
1935	4,489	453		4,036
1936	4,667	470		4,197
1937	4,459	444		4,015
1938	4,399	450		3,949
1939	4,439	441		3,998
1940	4,292	424		3,868
1941	3,882	399		3,483
1942	3,415	356		3,059
1943	3,359	365		2,994
1944	3,595	343		3,252
1945	4,207	362		3,845
1946	4,837	412		4,425
1947	5,084	367		4,717
1949	5,113	344		4,769
1950	5,411	319		5,092
1951	5,336	251		5,085
1952	5,402	243		5,159
1953	5,296	221	33	5,042
1954	5,599	223	31	5,345
1955	5,976	184	34	5,758
1956	6,204	181	33	5,990
1957	6,538	192	34	6,312
1958	6,912	180	37	6,695
1959	7,099	176	33	6,890
1960	7,673	156	29	7,488
1961	8,046	147	31	7,868
1962	7,748	139	30	7,579
1963	7,851	142	31	7,678
1964	8,180	127	30	8,023
1965	8,718	117	36	8,565
1966	8,990	125	42	8,823
1967	8,969	124	50	8,795
1968	9,093	111	47	8,935
1969	9,482	102	41	9,339
1970	9,685	103	45	9,537

TABLE 4:12 MALE WAGE EARNERS
REVISED FACTORY PRODUCTION, 1923-70

	NUMBER OF MALE WAGE EARNERS			
	FACTORY PRODUCTION	BUTTER & CHEESE	OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923				
1924				
1925	49,145	2,730		46,415
1926	48,503	2,635		45,868
1927	47,981	2,764		45,217
1928	49,306	2,865		46,441
1929	50,154	2,825		47,329
1930	46,153	2,821		43,332
1931	38,584	2,591		35,993
1932	38,044	2,750		35,294
1933	40,641	2,938		37,703
1934	44,965	2,562		42,403
1935	49,316	2,730		46,586
1936	55,495	2,953		52,542
1937	59,310	2,840		56,470
1938	59,676	2,650		57,026
1939	62,509	2,598		59,911
1940	64,076	2,776		61,300
1941	65,211	3,149		62,062
1942	62,686	2,661		60,025
1943	65,595	2,555		63,040
1944	68,916	2,734		66,182
1945	73,604	2,766		70,838
1946	80,000	2,786		77,214
1947	84,689	2,884		81,805
1949	87,661	3,161		84,500
1950	89,526	3,240		86,286
1951	90,576	3,483		87,093
1952	90,961	3,568		87,393
1953	93,373	2,580	1,025	89,768
1954	97,659	2,562	1,009	94,088
1955	100,537	2,446	1,196	96,895
1956	99,854	2,433	1,340	96,081
1957	103,291	2,520	1,380	99,391
1958	106,478	2,301	1,377	102,800
1959	109,079	2,382	1,331	105,366
1960	114,927	2,408	1,319	111,200
1961	118,641	2,386	1,296	114,959
1962	120,662	2,391	1,259	117,012
1963	124,568	2,226	1,184	121,158
1964	131,752	2,333	1,158	128,261
1965	137,844	2,155	1,288	134,401
1966	141,409	2,256	1,477	137,676
1967	139,420	2,246	1,532	135,642
1968	141,806	2,058	1,547	138,201
1969	148,943	1,991	1,368	145,584
1970	154,464	2,070	1,675	150,719

TABLE 4:13 MALE TECHNICIANS
REVISED FACTORY PRODUCTION, 1923-1970

	MALE TECHNICIANS			
	FACTORY PRODUCTION	BUTTER & CHEESE	OTHER MILK PRODUCTS	REV. FACTORY PRODUCTION
1923	0	0	0	0
1924	0	0	0	0
1925	0	0	0	0
1926	0	0	0	0
1927	0	0	0	0
1928	0	0	0	0
1929	0	0	0	0
1930	0	0	0	0
1931	0	0	0	0
1932	0	0	0	0
1933	0	0	0	0
1934	0	0	0	0
1935	0	0	0	0
1936	0	0	0	0
1937	0	0	0	0
1938	0	0	0	0
1939	0	0	0	0
1940	0	0	0	0
1941	0	0	0	0
1942	0	0	0	0
1943	0	0	0	0
1944	0	0	0	0
1945	0	0	0	0
1946	0	0	0	0
1947	0	0	0	0
1949	0	0	0	0
1950	0	0	0	0
1951	0	0	0	0
1952	0	0	0	0
1953	0	0	0	0
1954	0	0	0	0
1955	0	0	0	0
1956	0	0	0	0
1957	0	0	0	0
1958	0	0	0	0
1959	0	0	0	0
1960	0	0	0	0
1961	0	0	0	0
1962	1,484	13	48	1,423
1963	1,902	13	61	1,828
1964	2,528	13	60	2,455
1965	2,996	9	72	2,915
1966	3,188	11	83	3,094
1967	3,484	10	87	3,387
1968	3,657	13	92	3,552
1969	4,052	31	110	3,911
1970	4,384	28	108	4,248

TABLE 4:14 MALE PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
REVISED FACTORY PRODUCTION, 1923-70

	PROPRIETORS-		-MANAGERS &-- --OVERSEERS--		ACCOUNTANTS- --& CLERKS--		-----WAGE----- ---EARNERS----		TECHNICIANS-		-----TOTAL-----	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
1923												
1924												
1925	2,514	4.5	3,594	6.4	3,869	6.9	46,415	82.3	0	0.0	56,392	100.0
1926	2,790	5.0	3,630	6.5	3,547	6.4	45,868	82.1	0	0.0	55,835	100.0
1927	2,755	5.0	3,651	6.6	3,582	6.5	45,217	81.9	0	0.0	55,205	100.0
1928	2,345	4.2	3,881	6.9	3,702	6.6	46,441	82.4	0	0.0	56,369	100.0
1929	2,565	4.5	3,644	6.4	3,844	6.7	47,329	82.5	0	0.0	57,382	100.0
1930	2,334	4.4	3,899	7.3	3,676	6.9	43,332	81.4	0	0.0	53,241	100.0
1931	2,086	4.6	3,640	8.1	3,488	7.7	35,993	79.6	0	0.0	45,207	100.0
1932	2,176	4.9	3,504	7.9	3,578	8.0	35,294	79.2	0	0.0	44,552	100.0
1933	2,208	4.7	3,532	7.5	3,689	7.8	37,703	80.0	0	0.0	47,132	100.0
1934	2,271	4.4	3,500	6.7	3,859	7.4	42,403	81.5	0	0.0	52,033	100.0
1935	2,354	4.1	3,797	6.7	4,036	7.1	46,586	82.1	0	0.0	56,773	100.0
1936	2,443	3.9	4,136	6.5	4,197	6.6	52,542	83.0	0	0.0	63,318	100.0
1937	2,558	3.8	4,394	6.5	4,015	6.0	56,470	83.7	0	0.0	67,437	100.0
1938	2,533	3.7	4,531	6.7	3,949	5.8	57,026	83.8	0	0.0	68,039	100.0
1939	2,501	3.5	4,856	6.8	3,998	5.6	59,911	84.1	0	0.0	71,266	100.0
1940	2,487	3.4	5,049	6.9	3,868	5.3	61,300	84.3	0	0.0	72,704	100.0
1941	2,307	3.2	5,148	7.1	3,483	4.8	62,062	85.0	0	0.0	73,000	100.0
1942	2,017	2.9	5,303	7.5	3,059	4.3	60,025	85.3	0	0.0	70,404	100.0
1943	2,049	2.8	5,512	7.5	2,994	4.1	63,040	85.7	0	0.0	73,595	100.0
1944	2,169	2.8	5,807	7.5	3,252	4.2	66,182	85.5	0	0.0	77,410	100.0
1945	2,595	3.1	6,453	7.7	3,845	4.6	70,838	84.6	0	0.0	83,731	100.0
1946	2,997	3.3	6,980	7.6	4,425	4.8	77,214	84.3	0	0.0	91,616	100.0
1947	3,102	3.2	7,315	7.5	4,717	4.9	81,805	84.4	0	0.0	96,939	100.0

TABLE 4:14 MALE PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
REVISED FACTORY PRODUCTION, 1923-70

	PROPRIETORS-		-MANAGERS &-- --OVERSEERS--		ACCOUNTANTS- --& CLERKS--		-----WAGE----- ---EARNERS----		TECHNICIANS-		-----TOTAL-----	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
1949	2,667	2.7	7,311	7.4	4,769	4.8	84,500	85.1	0	0.0	99,247	100.0
1950	2,571	2.5	7,592	7.5	5,092	5.0	86,286	85.0	0	0.0	101,541	100.0
1951	2,635	2.6	7,901	7.7	5,085	5.0	87,093	84.8	0	0.0	102,714	100.0
1952	2,491	2.4	7,977	7.7	5,159	5.0	87,393	84.8	0	0.0	103,020	100.0
1953	2,151	2.0	8,197	7.8	5,042	4.8	89,768	85.4	0	0.0	105,158	100.0
1954	2,027	1.8	8,615	7.8	5,345	4.9	94,088	85.5	0	0.0	110,075	100.0
1955	1,973	1.7	9,321	8.2	5,758	5.1	96,895	85.0	0	0.0	113,947	100.0
1956	1,852	1.6	9,553	8.4	5,990	5.3	96,081	84.7	0	0.0	113,476	100.0
1957	1,707	1.5	9,938	8.5	6,312	5.4	99,391	84.7	0	0.0	117,348	100.0
1958	1,650	1.4	10,215	8.4	6,695	5.5	102,800	84.7	0	0.0	121,360	100.0
1959	1,551	1.2	10,585	8.5	6,890	5.5	105,366	84.7	0	0.0	124,392	100.0
1960	1,588	1.2	11,224	8.5	7,488	5.7	111,200	84.6	0	0.0	131,500	100.0
1961	1,705	1.3	11,666	8.6	7,868	5.8	114,959	84.4	0	0.0	136,198	100.0
1962	1,707	1.2	11,917	8.5	7,579	5.4	117,012	83.8	1,423	1.0	139,638	100.0
1963	1,625	1.1	12,725	8.8	7,678	5.3	121,158	83.5	1,828	1.3	145,014	100.0
1964	1,719	1.1	13,226	8.6	8,023	5.2	128,261	83.5	2,455	1.6	153,684	100.0
1965	1,619	1.0	13,816	8.6	8,565	5.3	134,401	83.3	2,915	1.8	161,316	100.0
1966	1,685	1.0	14,504	8.7	8,823	5.3	137,676	83.0	3,094	1.9	165,782	100.0
1967	1,555	0.9	14,767	9.0	8,795	5.4	135,642	82.6	3,387	2.1	164,146	100.0
1968	1,539	0.9	15,105	9.0	8,935	5.3	138,201	82.6	3,552	2.1	167,332	100.0
1969	1,437	0.8	15,151	8.6	9,339	5.3	145,584	83.0	3,911	2.2	175,422	100.0
1970	1,335	0.7	16,161	8.9	9,537	5.2	150,719	82.8	4,248	2.3	182,000	100.0

TABLE 4:15 PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
REVISED FACTORY PRODUCTION, 1923-70

	PROPRIETORS-		-MANAGERS & OVERSEERS-		-ACCOUNTANTS- & CLERKS-		-WAGE- EARNERS-		TECHNICIANS-		-TOTAL-	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
1923												
1924												
1925	2,583	3.7	3,725	5.3	5,587	7.9	58,626	83.1	0	0.0	70,521	100.0
1926	2,855	4.1	3,737	5.3	5,331	7.6	58,302	83.0	0	0.0	70,225	100.0
1927	2,813	4.0	3,754	5.3	5,493	7.8	58,324	82.9	0	0.0	70,384	100.0
1928	2,425	3.4	4,001	5.5	5,718	7.9	60,136	83.2	0	0.0	72,280	100.0
1929	2,640	3.6	3,775	5.1	6,027	8.1	61,677	83.2	0	0.0	74,119	100.0
1930	2,411	3.5	4,035	5.8	5,745	8.3	57,294	82.5	0	0.0	69,485	100.0
1931	2,170	3.6	3,761	6.2	5,512	9.1	48,902	81.0	0	0.0	60,345	100.0
1932	2,263	3.7	3,631	6.0	5,609	9.3	48,852	80.9	0	0.0	60,355	100.0
1933	2,302	3.6	3,660	5.7	5,730	9.0	52,113	81.7	0	0.0	63,805	100.0
1934	2,379	3.4	3,641	5.1	6,035	8.5	58,828	83.0	0	0.0	70,883	100.0
1935	2,468	3.2	3,936	5.1	6,406	8.3	64,654	83.5	0	0.0	77,464	100.0
1936	2,562	2.9	4,304	4.9	6,677	7.7	73,420	84.4	0	0.0	86,963	100.0
1937	2,683	2.9	4,554	4.9	6,685	7.2	78,947	85.0	0	0.0	92,869	100.0
1938	2,665	2.9	4,749	5.1	6,799	7.3	78,697	84.7	0	0.0	92,910	100.0
1939	2,617	2.6	5,089	5.1	7,117	7.2	84,160	85.0	0	0.0	98,983	100.0
1940	2,617	2.5	5,292	5.1	7,236	7.0	88,915	85.4	0	0.0	104,060	100.0
1941	2,450	2.3	5,430	5.1	7,293	6.8	91,921	85.8	0	0.0	107,094	100.0
1942	2,165	2.1	5,588	5.3	7,157	6.8	90,334	85.8	0	0.0	105,244	100.0
1943	2,210	2.0	5,843	5.4	7,232	6.7	93,246	85.9	0	0.0	108,531	100.0
1944	2,331	2.1	6,170	5.5	7,520	6.7	96,779	85.8	0	0.0	112,800	100.0
1945	2,777	2.3	6,818	5.8	8,285	7.0	100,332	84.9	0	0.0	118,212	100.0
1946	3,205	2.6	7,407	6.0	8,911	7.2	104,655	84.3	0	0.0	124,178	100.0
1947	3,298	2.5	7,731	5.9	9,204	7.1	109,837	84.4	0	0.0	130,070	100.0

TABLE 4:15 PERSONS ENGAGED BY OCCUPATIONAL CLASSIFICATION
REVISED FACTORY PRODUCTION, 1923-70

	PROPRIETORS-		-MANAGERS &-- --OVERSEERS--		-ACCOUNTANTS- --& CLERKS---		-----WAGE----- ---EARNERS----		TECHNICIANS-		-----TOTAL-----	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
1949	2,832	2.1	7,654	5.7	9,046	6.8	114,063	85.4	0	0.0	133,595	100.0
1950	2,765	2.0	7,977	5.8	9,617	7.0	117,536	85.2	0	0.0	137,895	100.0
1951	2,836	2.0	8,314	5.9	9,539	6.8	119,161	85.2	0	0.0	139,850	100.0
1952	2,681	1.9	8,350	6.0	9,749	7.0	117,733	85.0	0	0.0	138,513	100.0
1953	2,357	1.7	8,580	6.0	9,531	6.7	121,431	85.6	0	0.0	141,899	100.0
1954	2,176	1.5	9,001	6.0	10,161	6.8	127,664	85.7	0	0.0	149,002	100.0
1955	2,112	1.4	9,725	6.3	11,020	7.2	130,801	85.1	0	0.0	153,658	100.0
1956	2,004	1.3	9,966	6.6	11,404	7.5	128,698	84.6	0	0.0	152,072	100.0
1957	1,845	1.2	10,383	6.6	12,133	7.7	133,807	84.6	0	0.0	158,168	100.0
1958	1,792	1.1	10,689	6.5	12,769	7.8	138,906	84.6	0	0.0	164,156	100.0
1959	1,667	1.0	11,058	6.6	13,279	7.9	141,345	84.5	0	0.0	167,349	100.0
1960	1,724	1.0	11,712	6.6	14,183	8.0	149,171	84.4	0	0.0	176,790	100.0
1961	1,827	1.0	12,144	6.6	14,986	8.2	154,137	84.2	0	0.0	183,094	100.0
1962	1,845	1.0	12,398	6.6	14,853	7.9	156,256	83.6	1,608	0.9	186,960	100.0
1963	1,756	0.9	13,277	6.8	15,286	7.8	162,614	83.4	2,029	1.0	194,962	100.0
1964	1,868	0.9	13,818	6.7	16,430	8.0	171,830	83.2	2,694	1.3	206,640	100.0
1965	1,761	0.8	14,447	6.6	17,564	8.0	181,524	83.1	3,221	1.5	218,517	100.0
1966	1,813	0.8	15,184	6.8	18,180	8.1	186,077	82.8	3,384	1.5	224,638	100.0
1967	1,688	0.8	15,480	7.0	18,323	8.3	181,819	82.3	3,716	1.7	221,026	100.0
1968	1,687	0.8	15,937	7.1	18,865	8.4	184,160	82.0	3,895	1.7	224,544	100.0
1969	1,591	0.7	16,072	6.8	19,740	8.3	195,108	82.4	4,298	1.8	236,809	100.0
1970	1,465	0.6	17,102	6.9	20,053	8.1	203,469	82.5	4,667	1.9	246,756	100.0

TABLE 4:16 FEMALE PERSONS ENGAGED AS FRACTION OF LABOUR FORCE REVISED FACTORY PRODUCTION, 1948-70

YEAR	--FEMALE PERSONS IN-- LABOUR FORCE (000)	REV. FACTORY PRODUCTION	PERCENT OF FEMALE LABOUR FORCE IN REVISED FACTORY PRODUCTION
1948	170.30		
1949	172.50	34,348	19.91
1950	176.70	36,354	20.57
1951	180.30	37,136	20.60
1952	182.40	35,493	19.46
1953	178.60	36,741	20.57
1954	185.20	38,927	21.02
1955	191.10	39,711	20.78
1956	194.40	38,596	19.85
1957	200.30	40,820	20.38
1958	206.20	42,796	20.75
1959	210.50	42,957	20.41
1960	215.00	45,290	21.07
1961	224.80	46,896	20.86
1962	230.70	47,322	20.51
1963	236.20	49,948	21.15
1964	248.10	52,956	21.34
1965	262.50	57,201	21.79
1966	280.40	58,856	20.99
1967	293.10	56,880	19.41
1968	287.20	57,212	19.92
1969	296.50	61,387	20.70
1970	311.50	64,756	20.79

TABLE 4:17 MALE PERSONS ENGAGED AS FRACTION OF LABOUR FORCE REVISED FACTORY PRODUCTION, 1948-70

YEAR	---MALE LABOUR FORCE (000)	PERSONS IN--- REV. FACTORY PRODUCTION	PERCENT OF MALE LABOUR FORCE IN REVISED FACTORY PRODUCTION
1948	544.60		
1949	550.80	99,247	18.02
1950	559.20	101,541	18.16
1951	560.40	102,714	18.33
1952	572.20	103,020	18.00
1953	588.10	105,158	17.88
1954	601.80	110,075	18.29
1955	609.20	113,947	18.70
1956	619.50	113,476	18.32
1957	629.60	117,348	18.64
1958	641.70	121,360	18.91
1959	651.30	124,392	19.10
1960	660.60	131,500	19.91
1961	670.50	136,198	20.31
1962	680.90	139,638	20.51
1963	693.70	145,014	20.90
1964	709.80	153,684	21.65
1965	728.90	161,316	22.13
1966	745.60	165,782	22.23
1967	759.40	164,146	21.62
1968	756.52	167,332	22.12
1969	764.70	175,422	22.94
1970	779.20	182,000	23.36

TABLE 4:18 PERSONS ENGAGED AS FRACTION OF LABOUR FORCE REVISED FACTORY PRODUCTION, 1948-70

YEAR	--PERSONS ENGAGED IN-- LABOUR FORCE (000)	REV. FACTORY PRODUCTION	PERCENT OF LABOUR FORCE IN REVISED FACTORY PRODUCTION
1948	714.90		
1949	723.30	133,595	18.47
1950	735.90	137,895	18.74
1951	740.70	139,850	18.88
1952	754.60	138,513	18.36
1953	766.70	141,899	18.51
1954	787.00	149,002	18.93
1955	800.30	153,658	19.20
1956	813.90	152,072	18.68
1957	829.90	158,168	19.06
1958	847.90	164,156	19.36
1959	861.80	167,349	19.42
1960	875.60	176,790	20.19
1961	895.30	183,094	20.45
1962	911.60	186,960	20.51
1963	929.90	194,962	20.97
1964	957.90	206,640	21.57
1965	991.40	218,517	22.04
1966	1026.00	224,638	21.89
1967	1052.50	221,026	21.00
1968	1043.72	224,544	21.51
1969	1061.20	236,809	22.32
1970	1090.70	246,756	22.62

TABLE 4:19 ANNUAL WAGE & SALARY BILL
REVISED FACTORY PRODUCTION, 1923-70

	-ANNUAL WAGES & SALARIES, NOMINAL UNITS(000)-			
	FACTORY PRDN	-DAIRY FACTORIES-		REV. FACTORY
	DOLLARS	POUNDS	DOLLARS	PRODUCTION
1923	26,284	811	1,622	24,662
1924	28,388	868	1,736	26,652
1925	30,518	882	1,764	28,754
1926	30,516	888	1,776	28,740
1927	30,052	913	1,826	28,226
1928	30,424	945	1,890	28,534
1929	31,536	957	1,914	29,622
1930	28,976	914	1,828	27,148
1931	23,150	830	1,660	21,490
1932	22,088	838	1,676	20,412
1933	22,162	838	1,676	20,486
1934	24,370	765	1,530	22,840
1935	27,402	841	1,682	25,720
1936	34,108	1,033	2,066	32,042
1937	39,104	1,041	2,082	37,022
1938	41,424	1,065	2,130	39,294
1939	45,602	1,074	2,148	43,454
1940	50,460	1,204	2,408	48,052
1941	55,712	1,349	2,698	53,014
1942	60,890	1,206	2,412	58,478
1943	65,036	1,189	2,378	62,658
1944	70,690	1,388	2,776	67,914
1945	78,364	1,476	2,952	75,412
1946	85,732	1,620	3,240	82,492
1947	99,170	1,703	3,406	95,764
1949	116,500	2,204	4,408	112,092
1950	133,990	2,545	5,090	128,900
1951	150,058	2,794	5,588	144,470
1952	156,966	3,147	6,294	150,672
1953	173,242	3,172	6,344	166,898
1954	196,826	3,215	6,430	190,396
1955	215,878	3,431	6,862	209,016
1956	221,896	3,658	7,316	214,580
1957	239,978	3,856	7,712	232,266
1958	256,556	3,948	7,896	248,660
1959	272,352	4,132	8,264	264,088
1960	301,150	4,371	8,742	292,408
1961	323,064	4,404	8,808	314,256
1962	339,584	4,550	9,100	330,484
1963	368,584		8,650	359,934
1964	411,992		9,458	402,534
1965	455,030		9,989	445,041
1966	492,730		11,170	481,560
1967	495,878		11,394	484,484
1968	527,809		11,482	516,327
1969	608,270		11,567	596,703
1970	735,845		14,981	720,864

TABLE 4:20 WAGE & SALARY BILL, CONSTANT (1984) DOLLARS
REVISED FACTORY PRODUCTION, 1923-1970

	THOUSANDS NOMINAL DOLLARS	CONSUMER PRICE INDEX	THOUSANDS CONSTANT DOLLARS
1923	24,662	135	394,044
1924	26,652	137	419,623
1925	28,754	138	449,438
1926	28,740	139	445,987
1927	28,226	138	441,185
1928	28,534	138	445,999
1929	29,622	138	463,005
1930	27,148	135	433,765
1931	21,490	125	370,831
1932	20,412	115	382,858
1933	20,486	109	405,397
1934	22,840	111	443,837
1935	25,720	115	482,418
1936	32,042	119	580,795
1937	37,022	127	628,791
1938	39,294	131	647,001
1939	43,454	136	689,193
1940	48,052	142	729,917
1941	53,014	148	772,643
1942	58,478	152	829,849
1943	62,658	156	866,367
1944	67,914	159	921,324
1945	75,412	161	1,010,333
1946	82,492	162	1,098,366
1947	95,764	167	1,236,904
1949	112,092	184	1,314,035
1950	128,900	194	1,433,182
1951	144,470	216	1,442,693
1952	150,672	232	1,400,860
1953	166,898	243	1,481,477
1954	190,396	254	1,616,867
1955	209,016	260	1,734,029
1956	214,580	269	1,720,628
1957	232,266	275	1,821,810
1958	248,660	287	1,868,849
1959	264,088	298	1,911,536
1960	292,408	300	2,102,414
1961	314,256	306	2,215,197
1962	330,484	314	2,270,236
1963	359,934	320	2,426,180
1964	402,534	331	2,623,160
1965	445,041	343	2,798,698
1966	481,560	352	2,950,923
1967	484,484	373	2,801,694
1968	516,327	389	2,863,027
1969	596,703	409	3,146,915
1970	720,864	435	3,574,491
Dec 1984		2,157	

TABLE 4:21 WAGE & SALARY BILL, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-1970

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	394,044					
1924	419,623	394,044	25,579	6.49		
1925	449,438	419,623	29,814	7.11		
1926	445,987	449,438			-3,451	-0.77
1927	441,185	445,987			-4,802	-1.08
1928	445,999	441,185	4,814	1.09		
1929	463,005	445,999	17,006	3.81		
1930	433,765	463,005			-29,240	-6.32
1931	370,831	433,765			-62,933	-14.51
1932	382,858	370,831	12,027	3.24		
1933	405,397	382,858	22,539	5.89		
1934	443,837	405,397	38,439	9.48		
1935	482,418	443,837	38,581	8.69		
1936	580,795	482,418	98,377	20.39		
1937	628,791	580,795	47,996	8.26		
1938	647,001	628,791	18,210	2.90		
1939	689,193	647,001	42,192	6.52		
1940	729,917	689,193	40,723	5.91		
1941	772,643	729,917	42,727	5.85		
1942	829,849	772,643	57,206	7.40		
1943	866,367	829,849	36,518	4.40		
1944	921,324	866,367	54,957	6.34		
1945	1,010,333	921,324	89,010	9.66		
1946	1,098,366	1,010,333	88,032	8.71		
1947	1,236,904	1,098,366	138,538	12.61		
1949	1,314,035	1,236,904	77,131	6.24		
1950	1,433,182	1,314,035	119,147	9.07		
1951	1,442,693	1,433,182	9,512	0.66		
1952	1,400,860	1,442,693			-41,834	-2.90
1953	1,481,477	1,400,860	80,617	5.75		
1954	1,616,867	1,481,477	135,390	9.14		
1955	1,734,029	1,616,867	117,162	7.25		
1956	1,720,628	1,734,029			-13,400	-0.77
1957	1,821,810	1,720,628	101,182	5.88		
1958	1,868,849	1,821,810	47,039	2.58		
1959	1,911,536	1,868,849	42,687	2.28		
1960	2,102,414	1,911,536	190,877	9.99		
1961	2,215,197	2,102,414	112,783	5.36		
1962	2,270,236	2,215,197	55,039	2.48		
1963	2,426,180	2,270,236	155,944	6.87		
1964	2,623,160	2,426,180	196,980	8.12		
1965	2,798,698	2,623,160	175,538	6.69		
1966	2,950,923	2,798,698	152,225	5.44		
1967	2,801,694	2,950,923			-149,229	-5.06
1968	2,863,027	2,801,694	61,332	2.19		
1969	3,146,915	2,863,027	283,889	9.92		
1970	3,574,491	3,146,915	427,576	13.59		

Dec 1984

TABLE 4:22 ANNUAL BILL FOR RAW MATERIALS BILL
REVISED FACTORY PRODUCTION, 1923-70

	--ANNUAL RAW MATERIALS, NOMINAL UNITS (000)--			
	FACTORY PRDN	-DAIRY FACTORIES-		REV. FACTORY
	DOLLARS	POUNDS	DOLLARS	PRODUCTION
1923	89,340	15,697	31,394	57,946
1924	99,094	15,137	30,274	68,820
1925	98,986	15,802	31,604	67,382
1926	93,280	16,455	32,910	60,370
1927	102,174	15,376	30,752	71,422
1928	110,846	20,716	41,432	69,414
1929	108,822	20,318	40,636	68,186
1930	88,456	15,081	30,162	58,294
1931	76,644	14,982	29,964	46,680
1932	76,818	14,338	28,676	48,142
1933	85,978	15,750	31,500	54,478
1934	96,214	15,997	31,994	64,220
1935	111,848	21,210	42,420	69,428
1936	132,768	24,414	48,828	83,940
1937	141,028	25,406	50,812	90,216
1938	140,104	24,910	49,820	90,284
1939	157,882	27,332	54,664	103,218
1940	183,398	30,064	60,128	123,270
1941	190,298	28,498	56,996	133,302
1942	200,890	26,770	53,540	147,350
1943	210,804	25,719	51,438	159,366
1944	229,590	29,319	58,638	170,952
1945	230,444	24,746	49,492	180,952
1946	258,812	27,602	55,204	203,608
1947	344,950	42,732	85,464	259,486
1949	420,364	53,405	106,810	313,554
1950	525,000	61,194	122,388	402,612
1951	581,462	71,231	142,462	439,000
1952	637,898	80,369	160,738	477,160
1953	665,650	76,487	152,974	512,676
1954	730,598	77,526	155,052	575,546
1955	769,588	81,752	163,504	606,084
1956	789,976	81,891	163,782	626,194
1957	835,836	83,920	167,840	667,996
1958	837,294	77,216	154,432	682,862
1959	878,176	83,895	167,790	710,386
1960	939,406	77,969	155,938	783,468
1961	976,980	78,242	156,484	820,496
1962	1,005,672	79,994	159,988	845,684
1963	1,160,718		176,660	984,058
1964	1,343,976		206,146	1,137,830
1965	1,416,403		213,322	1,203,081
1966	1,466,347		226,084	1,240,263
1967	1,492,863		206,385	1,286,478
1968	1,662,326		210,732	1,451,594
1969	1,869,033		194,134	1,674,899
1970	2,104,909		226,664	1,878,245

TABLE 4:23 RAW MATERIALS BILL, CONSTANT (1984) DOLLARS
REVISED FACTORY PRODUCTION, 1923-1970

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX TOTAL	THOUSANDS CONSTANT DOLLARS
1923	57,946	127	985,994
1924	68,820	127	1,168,139
1925	67,382	126	1,149,392
1926	60,370	120	1,089,090
1927	71,422	114	1,355,911
1928	69,414	113	1,325,091
1929	68,186	112	1,313,189
1930	58,294	109	1,153,579
1931	46,680	102	987,145
1932	48,142	100	1,038,423
1933	54,478	102	1,152,049
1934	64,220	103	1,344,879
1935	69,428	107	1,399,591
1936	83,940	107	1,692,136
1937	90,216	116	1,677,551
1938	90,284	118	1,650,361
1939	103,218	122	1,824,928
1940	123,270	136	1,955,098
1941	133,302	149	1,929,748
1942	147,350	161	1,974,124
1943	159,366	172	1,998,561
1944	170,952	177	2,083,296
1945	180,952	180	2,168,408
1946	203,608	181	2,426,422
1947	259,486	187	2,993,109
1949	313,554	207	3,267,324
1950	402,612	226	3,842,629
1951	439,000	263	3,600,468
1952	477,160	292	3,524,774
1953	512,676	290	3,813,249
1954	575,546	287	4,325,619
1955	606,084	290	4,508,011
1956	626,194	301	4,487,377
1957	667,996	305	4,724,155
1958	682,862	313	4,705,857
1959	710,386	318	4,818,562
1960	783,468	319	5,297,619
1961	820,496	318	5,565,440
1962	845,684	316	5,772,596
1963	984,058	322	6,591,966
1964	1,137,830	334	7,348,202
1965	1,203,081	343	7,565,731
1966	1,240,263	349	7,665,465
1967	1,286,478	357	7,772,922
1968	1,451,594	382	8,196,566
1969	1,674,899	401	9,009,369
1970	1,878,245	425	9,532,646
Dec 1984		2,157	

TABLE 4:24 RAW MATERIALS BILL, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-1970

--THOUSANDS CONSTANT DOLLARS--

		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	985,994					
1924	1,168,139	985,994	182,145	18.47		
1925	1,149,392	1,168,139			-18,746	-1.60
1926	1,089,090	1,149,392			-60,303	-5.25
1927	1,355,911	1,089,090	266,821	24.50		
1928	1,325,091	1,355,911			-30,820	-2.27
1929	1,313,189	1,325,091			-11,902	-0.90
1930	1,153,579	1,313,189			-159,610	-12.15
1931	987,145	1,153,579			-166,435	-14.43
1932	1,038,423	987,145	51,278	5.19		
1933	1,152,049	1,038,423	113,627	10.94		
1934	1,344,879	1,152,049	192,830	16.74		
1935	1,399,591	1,344,879	54,712	4.07		
1936	1,692,136	1,399,591	292,546	20.90		
1937	1,677,551	1,692,136			-14,585	-0.86
1938	1,650,361	1,677,551			-27,190	-1.62
1939	1,824,928	1,650,361	174,567	10.58		
1940	1,955,098	1,824,928	130,170	7.13		
1941	1,929,748	1,955,098			-25,351	-1.30
1942	1,974,124	1,929,748	44,376	2.30		
1943	1,998,561	1,974,124	24,437	1.24		
1944	2,083,296	1,998,561	84,736	4.24		
1945	2,168,408	2,083,296	85,112	4.09		
1946	2,426,422	2,168,408	258,014	11.90		
1947	2,993,109	2,426,422	566,686	23.35		
1949	3,267,324	2,993,109	274,215	9.16		
1950	3,842,629	3,267,324	575,305	17.61		
1951	3,600,468	3,842,629			-242,161	-6.30
1952	3,524,774	3,600,468			-75,693	-2.10
1953	3,813,249	3,524,774	288,474	8.18		
1954	4,325,619	3,813,249	512,371	13.44		
1955	4,508,011	4,325,619	182,392	4.22		
1956	4,487,377	4,508,011			-20,634	-0.46
1957	4,724,155	4,487,377	236,778	5.28		
1958	4,705,857	4,724,155			-18,298	-0.39
1959	4,818,562	4,705,857	112,704	2.39		
1960	5,297,619	4,818,562	479,057	9.94		
1961	5,565,440	5,297,619	267,821	5.06		
1962	5,772,596	5,565,440	207,156	3.72		
1963	6,591,966	5,772,596	819,370	14.19		
1964	7,348,202	6,591,966	756,235	11.47		
1965	7,565,731	7,348,202	217,529	2.96		
1966	7,665,465	7,565,731	99,734	1.32		
1967	7,772,922	7,665,465	107,457	1.40		
1968	8,196,566	7,772,922	423,644	5.45		
1969	9,009,369	8,196,566	812,803	9.92		
1970	9,532,646	9,009,369	523,276	5.81		

TABLE 4:25 ANNUAL COST OTHER PRODUCTIVE EXPENSES 1
REVISED FACTORY PRODUCTION, 1923-70

	----------THOUSANDS NOMINAL UNITS----------			
	FACTORY PRODUCTION	-DAIRY FACTORIES- POUNDS	DOLLARS	REV. FACTORY PRODUCTION
1923	14,352	1,217	2,434	11,918
1924	15,688	1,367	2,734	12,954
1925	15,942	885	1,770	14,172
1926	16,018	840	1,680	14,338
1927	16,252	812	1,624	14,628
1928	18,504	955	1,910	16,594
1929	19,608	1,025	2,050	17,558
1930	17,200	955	1,910	15,290
1931	15,178	903	1,806	13,372
1932	15,700	894	1,788	13,912
1933	15,420	1,201	2,402	13,018
1934	16,802	1,281	2,562	14,240
1935	17,978	1,229	2,458	15,520
1936	20,260	1,350	2,700	17,560
1937	20,386	1,290	2,580	17,806
1938	19,318	1,288	2,576	16,742
1939	21,410	1,340	2,680	18,730
1940	23,188	1,436	2,872	20,316
1941	24,894	1,474	2,948	21,946
1942	25,958	1,433	2,866	23,092
1943	28,264	1,510	3,020	25,244
1944	30,178	1,674	3,348	26,830
1945	31,754	1,550	3,100	28,654
1946	35,688	2,091	4,182	31,506
1947	41,602	2,272	4,544	37,058
1949	51,562	2,911	5,822	45,740
1950	59,892	2,764	5,528	54,364
1951	64,056	2,968	5,936	58,120
1952	70,720	3,466	6,932	63,788
1953	80,786	3,734	7,468	73,318
1954	94,986	3,883	7,766	87,220
1955	113,082	4,231	8,462	104,620
1956	119,804	4,576	9,152	110,652
1957	132,104	4,835	9,670	122,434
1958	140,642	4,784	9,568	131,074
1959	144,962	4,720	9,440	135,522
1960	157,996	4,749	9,498	148,498
1961	173,590	4,974	9,948	163,642
1962	190,282	5,101	10,202	180,080
1963	206,438		10,538	195,900
1964	231,982		11,486	220,496
1965	263,419		12,930	250,489
1966	292,537		15,317	277,220
1967	307,898		17,331	290,567
1968	334,870		18,801	316,069
1969	377,480		18,533	358,947
1970	444,062		21,171	422,891

TABLE 4:26 OTHER PRODUCTIVE EXPENSES 1, CONSTANT 1984 DOLLARS
REVISED FACTORY PRODUCTION, 1923-1970

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX TOTAL	THOUSANDS CONSTANT DOLLARS
1923	11,918	127	202,794
1924	12,954	127	219,879
1925	14,172	126	241,744
1926	14,338	120	258,661
1927	14,628	114	277,705
1928	16,594	113	316,774
1929	17,558	112	338,148
1930	15,290	109	302,574
1931	13,372	102	282,778
1932	13,912	100	300,082
1933	13,018	102	275,292
1934	14,240	103	298,210
1935	15,520	107	312,866
1936	17,560	107	353,990
1937	17,806	116	331,100
1938	16,742	118	306,038
1939	18,730	122	331,153
1940	20,316	136	322,218
1941	21,946	149	317,701
1942	23,092	161	309,375
1943	25,244	172	316,577
1944	26,830	177	326,962
1945	28,654	180	343,370
1946	31,506	181	375,461
1947	37,058	187	427,455
1949	45,740	207	476,624
1950	54,364	226	518,863
1951	58,120	263	476,672
1952	63,788	292	471,201
1953	73,318	290	545,334
1954	87,220	287	655,518
1955	104,620	290	778,156
1956	110,652	301	792,945
1957	122,434	305	865,869
1958	131,074	313	903,280
1959	135,522	318	919,248
1960	148,498	319	1,004,107
1961	163,642	318	1,109,987
1962	180,080	316	1,229,217
1963	195,900	322	1,312,287
1964	220,496	334	1,423,982
1965	250,489	343	1,575,233
1966	277,220	349	1,713,363
1967	290,567	357	1,755,611
1968	316,069	382	1,784,714
1969	358,947	401	1,930,795
1970	422,891	425	2,146,296
Dec 1984		2,157	

TABLE 4:27 OTHER PRODUCTIVE EXPENSES 1, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	---INCREASE----		----DECREASE----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	202,794					
1924	219,879	202,794	17,085	8.42		
1925	241,744	219,879	21,865	9.94		
1926	258,661	241,744	16,917	7.00		
1927	277,705	258,661	19,044	7.36		
1928	316,774	277,705	39,069	14.07		
1929	338,148	316,774	21,374	6.75		
1930	302,574	338,148			-35,574	-10.52
1931	282,778	302,574			-19,796	-6.54
1932	300,082	282,778	17,304	6.12		
1933	275,292	300,082			-24,790	-8.26
1934	298,210	275,292	22,918	8.33		
1935	312,866	298,210	14,656	4.91		
1936	353,990	312,866	41,124	13.14		
1937	331,100	353,990			-22,891	-6.47
1938	306,038	331,100			-25,062	-7.57
1939	331,153	306,038	25,115	8.21		
1940	322,218	331,153			-8,935	-2.70
1941	317,701	322,218			-4,517	-1.40
1942	309,375	317,701			-8,326	-2.62
1943	316,577	309,375	7,202	2.33		
1944	326,962	316,577	10,385	3.28		
1945	343,370	326,962	16,408	5.02		
1946	375,461	343,370	32,091	9.35		
1947	427,455	375,461	51,994	13.85		
1949	476,624	427,455	49,169	11.50		
1950	518,863	476,624	42,239	8.86		
1951	476,672	518,863			-42,191	-8.13
1952	471,201	476,672			-5,471	-1.15
1953	545,334	471,201	74,133	15.73		
1954	655,518	545,334	110,183	20.20		
1955	778,156	655,518	122,639	18.71		
1956	792,945	778,156	14,788	1.90		
1957	865,869	792,945	72,925	9.20		
1958	903,280	865,869	37,411	4.32		
1959	919,248	903,280	15,968	1.77		
1960	1,004,107	919,248	84,859	9.23		
1961	1,109,987	1,004,107	105,880	10.54		
1962	1,229,217	1,109,987	119,230	10.74		
1963	1,312,287	1,229,217	83,070	6.76		
1964	1,423,982	1,312,287	111,695	8.51		
1965	1,575,233	1,423,982	151,251	10.62		
1966	1,713,363	1,575,233	138,130	8.77		
1967	1,755,611	1,713,363	42,248	2.47		
1968	1,784,714	1,755,611	29,104	1.66		
1969	1,930,795	1,784,714	146,080	8.19		
1970	2,146,296	1,930,795	215,501	11.16		

TABLE 4:28 ESTIMATION OF INTEREST PAYMENTS
DAIRY FACTORIES, 1923-70

	------THOUSANDS OF NOMINAL UNITS-------				INT. PAYMENTS	INTEREST PAYMENTS
	---FIXED ASSETS----		-INTEREST PAYMENTS-		AS PERCENT OF	ESTIMATED AS .83%
	POUNDS	DOLLARS	POUNDS	DOLLARS	FIXED ASSETS	FIXED ASSETS
1923	3,253	6,506				54
1924	3,596	7,192				60
1925	3,751	7,502				62
1926	4,366	8,732				72
1927	3,914	7,828				65
1928	3,904	7,808				65
1929	3,895	7,790				65
1930	3,888	7,776				65
1931	3,877	7,754				64
1932	3,764	7,528				62
1933	3,627	7,254				60
1934	3,609	7,218				60
1935	3,562	7,124				59
1936	3,652	7,304				61
1937	3,555	7,110				59
1938	3,635	7,270				60
1939	3,644	7,288				60
1940	3,495	6,990				58
1941	3,531	7,062				59
1942	3,250	6,500				54
1943	3,075	6,150				51
1944	3,070	6,140				51
1945	3,210	6,420				53
1946	3,528	7,056				59
1947	4,665	9,330				77

TABLE 4:28 ESTIMATION OF INTEREST PAYMENTS
DAIRY FACTORIES, 1923-70

	------THOUSANDS OF NOMINAL UNITS-------				INT. PAYMENTS	INTEREST PAYMENTS
	---FIXED ASSETS----		-INTEREST PAYMENTS-		AS PERCENT OF	ESTIMATED AS .83%
	POUNDS	DOLLARS	POUNDS	DOLLARS	FIXED ASSETS	FIXED ASSETS
1949	6,386	12,772				106
1950	7,229	14,458				120
1951	7,413	14,826				123
1952	9,716	19,432				161
1953	12,489	24,978				207
1954	12,744	25,488	97	194	0.76	212
1955	12,956	25,912	115	230	0.89	215
1956	14,901	29,802	137	274	0.92	247
1957	15,321	30,642	134	268	0.87	254
1958	15,730	31,460	122	244	0.78	261
1959	17,479	34,958	119	238	0.68	290
1960	15,893	31,786	89	178	0.56	264
1961	16,292	32,584	115	230	0.71	270
1962	16,765	33,530	128	256	0.76	278
1963		32,484	110	220	0.68	270
1964		35,064	95	190	0.54	291
1965		44,178		237	0.54	367
1966		48,789		389	0.80	405
1967		52,891		555	1.05	439
1968		64,234		746	1.16	533
1969		64,651		771	1.19	537
1970		67,671		853	1.26	562

TABLE 4:29 INTEREST PAYMENTS
REVISED FACTORY PRODUCTION, 1923-70

	----THOUSANDS OF NOMINAL DOLLARS----		
	FACTORY PRODUCTION	DAIRY FACTORIES	REV. FACTORY PRODUCTION
1923	1,279	54	1,225
1924	1,418	60	1,358
1925	1,506	62	1,444
1926	1,346	72	1,274
1927	1,373	65	1,308
1928	1,493	65	1,428
1929	1,606	65	1,541
1930	1,254	65	1,189
1931	805	64	741
1932	1,594	62	1,532
1933	1,272	60	1,212
1934	1,445	60	1,385
1935	1,592	59	1,533
1936	1,482	61	1,421
1937	1,778	59	1,719
1938	1,757	60	1,697
1939	1,837	60	1,777
1940	1,917	58	1,859
1941	1,994	59	1,935
1942	2,094	54	2,040
1943	2,248	51	2,197
1944	2,442	51	2,391
1945	2,499	53	2,446
1946	2,657	59	2,598
1947	3,167	77	3,090
1949	7,267	106	7,161
1950	4,393	120	4,273
1951	3,214	123	3,091
1952	3,604	161	3,443
1953	3,760	207	3,553
1954	2,906	194	2,712
1955	5,176	230	4,946
1956	6,088	274	5,814
1957	6,428	268	6,160
1958	6,754	244	6,510
1959	6,600	238	6,362
1960	7,162	178	6,984
1961	8,572	230	8,342
1962	10,714	256	10,458
1963	11,848	220	11,628
1964	12,548	190	12,358
1965	14,586	237	14,349
1966	16,569	389	16,180
1967	19,068	555	18,513
1968	21,011	746	20,265
1969	22,808	771	22,037
1970	27,481	853	26,628

TABLE 4:30 DEPRECIATION
REVISED FACTORY PRODUCTION, 1923-70

	----DEPRECIATION, THOUSANDS NOMINAL UNITS----			
	FACTORY PRDN	-DAIRY FACTORIES-		REV. FACTORY
	DOLLARS	POUNDS	DOLLARS	PRODUCTION
1923	1,603	134	268	1,335
1924	1,699	150	300	1,399
1925	1,650	97	194	1,456
1926	1,518	182	364	1,154
1927	1,488	211	422	1,066
1928	2,432	208	416	2,016
1929	2,649	209	418	2,231
1930	2,566	201	402	2,164
1931	2,345	188	376	1,969
1932	2,406	188	376	2,030
1933	2,444	174	348	2,096
1934	2,591	169	338	2,253
1935	2,760	177	354	2,406
1936	2,916	169	338	2,578
1937	3,036	168	336	2,700
1938	3,147	174	348	2,799
1939	3,491	202	404	3,087
1940	3,933	211	422	3,511
1941	4,254	245	490	3,764
1942	4,464	222	444	4,020
1943	4,808	296	592	4,216
1944	4,968	333	666	4,302
1945	5,327	261	522	4,805
1946	6,695	562	1,124	5,571
1947	8,127	611	1,222	6,905
1949	11,273	784	1,568	9,705
1950	13,295	892	1,784	11,511
1951	14,092	650	1,300	12,792
1952	15,496	714	1,428	14,068
1953	17,592	770	1,540	16,052
1954	21,286	803	1,606	19,680
1955	27,056	923	1,846	25,210
1956	28,478	1,058	2,116	26,362
1957	31,740	1,003	2,006	29,734
1958	31,472	1,050	2,100	29,372
1959	31,306	996	1,992	29,314
1960	33,232	1,000	2,000	31,232
1961	37,092	1,015	2,030	35,062
1962	43,468	1,100	2,200	41,268
1963	47,342	1,101	2,202	45,140
1964	53,854	1,214	2,428	51,426
1965	63,797		2,929	60,868
1966	70,195		3,735	66,460
1967	72,302		4,164	68,138
1968	75,627		4,823	70,804
1969	83,811		4,359	79,452
1970	94,026		5,561	88,465

TABLE 4:31 OTHER PRODUCTIVE EXPENSES 2
REVISED FACTORY PRODUCTION, 1923-70

	-------THOUSANDS OF NOMINAL DOLLARS--------			
	OTHER PROD EXPENSES 1	INTEREST PAYMENTS	DEPREC'N	OTHER PROD EXPENSES 2
1923	11,918	1,225	1,335	9,358
1924	12,954	1,358	1,399	10,197
1925	14,172	1,444	1,456	11,272
1926	14,338	1,274	1,154	11,910
1927	14,628	1,308	1,066	12,254
1928	16,594	1,428	2,016	13,150
1929	17,558	1,541	2,231	13,786
1930	15,290	1,189	2,164	11,937
1931	13,372	741	1,969	10,662
1932	13,912	1,532	2,030	10,350
1933	13,018	1,212	2,096	9,710
1934	14,240	1,385	2,253	10,602
1935	15,520	1,533	2,406	11,581
1936	17,560	1,421	2,578	13,561
1937	17,806	1,719	2,700	13,387
1938	16,742	1,697	2,799	12,246
1939	18,730	1,777	3,087	13,866
1940	20,316	1,859	3,511	14,946
1941	21,946	1,935	3,764	16,247
1942	23,092	2,040	4,020	17,032
1943	25,244	2,197	4,216	18,831
1944	26,830	2,391	4,302	20,137
1945	28,654	2,446	4,805	21,403
1946	31,506	2,598	5,571	23,337
1947	37,058	3,090	6,905	27,063
1949	45,740	7,161	9,705	28,874
1950	54,364	4,273	11,511	38,580
1951	58,120	3,091	12,792	42,237
1952	63,788	3,443	14,068	46,277
1953	73,318	3,553	16,052	53,713
1954	87,220	2,712	19,680	64,828
1955	104,620	4,946	25,210	74,464
1956	110,652	5,814	26,362	78,476
1957	122,434	6,160	29,734	86,540
1958	131,074	6,510	29,372	95,192
1959	135,522	6,362	29,314	99,846
1960	148,498	6,984	31,232	110,282
1961	163,642	8,342	35,062	120,238
1962	180,080	10,458	41,268	128,354
1963	195,900	11,628	45,140	139,132
1964	220,496	12,358	51,426	156,712
1965	250,489	14,349	60,868	175,272
1966	277,220	16,180	66,460	194,580
1967	290,567	18,513	68,138	203,916
1968	316,069	20,265	70,804	225,000
1969	358,947	22,037	79,452	257,458
1970	422,891	26,628	88,465	307,798

TABLE 4:32 OTHER PRODUCTIVE EXPENSES 2, CONSTANT 1984 DOLLARS
REVISED FACTORY PRODUCTION, 1923-1970

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX TOTAL	THOUSANDS CONSTANT DOLLARS
1923	9,358	127	159,233
1924	10,197	127	173,082
1925	11,272	126	192,276
1926	11,910	120	214,859
1927	12,254	114	232,636
1928	13,150	113	251,029
1929	13,786	112	265,504
1930	11,937	109	236,221
1931	10,662	102	225,470
1932	10,350	100	223,250
1933	9,710	102	205,338
1934	10,602	103	222,024
1935	11,581	107	233,460
1936	13,561	107	273,375
1937	13,387	116	248,929
1938	12,246	118	223,853
1939	13,866	122	245,155
1940	14,946	136	237,048
1941	16,247	149	235,200
1942	17,032	161	228,186
1943	18,831	172	236,154
1944	20,137	177	245,398
1945	21,403	180	256,479
1946	23,337	181	278,110
1947	27,063	187	312,165
1949	28,874	207	300,875
1950	38,580	226	368,217
1951	42,237	263	346,408
1952	46,277	292	341,848
1953	53,713	290	399,514
1954	64,828	287	487,226
1955	74,464	290	553,858
1956	78,476	301	562,368
1957	86,540	305	612,022
1958	95,192	313	656,004
1959	99,846	318	677,257
1960	110,282	319	745,700
1961	120,238	318	815,577
1962	128,354	316	876,138
1963	139,132	322	932,012
1964	156,712	334	1,012,059
1965	175,272	343	1,102,221
1966	194,580	349	1,202,605
1967	203,916	357	1,232,064
1968	225,000	382	1,270,484
1969	257,458	401	1,384,880
1970	307,798	425	1,562,165
Dec 1984		2,157	

TABLE 4:33 OTHER PRODUCTIVE EXPENSES 2, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	---INCREASE----		----DECREASE----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	159,233					
1924	173,082	159,233	13,849	8.70		
1925	192,276	173,082	19,194	11.09		
1926	214,859	192,276	22,583	11.75		
1927	232,636	214,859	17,777	8.27		
1928	251,029	232,636	18,393	7.91		
1929	265,504	251,029	14,475	5.77		
1930	236,221	265,504			-29,283	-11.03
1931	225,470	236,221			-10,751	-4.55
1932	223,250	225,470			-2,221	-0.98
1933	205,338	223,250			-17,912	-8.02
1934	222,024	205,338	16,686	8.13		
1935	233,460	222,024	11,436	5.15		
1936	273,375	233,460	39,915	17.10		
1937	248,929	273,375			-24,446	-8.94
1938	223,853	248,929			-25,076	-10.07
1939	245,155	223,853	21,302	9.52		
1940	237,048	245,155			-8,107	-3.31
1941	235,200	237,048			-1,848	-0.78
1942	228,186	235,200			-7,014	-2.98
1943	236,154	228,186	7,968	3.49		
1944	245,398	236,154	9,244	3.91		
1945	256,479	245,398	11,081	4.52		
1946	278,110	256,479	21,631	8.43		
1947	312,165	278,110	34,055	12.25		
1949	300,875	312,165			-11,290	-3.62
1950	368,217	300,875	67,342	22.38		
1951	346,408	368,217			-21,809	-5.92
1952	341,848	346,408			-4,560	-1.32
1953	399,514	341,848	57,666	16.87		
1954	487,226	399,514	87,713	21.95		
1955	553,858	487,226	66,632	13.68		
1956	562,368	553,858	8,510	1.54		
1957	612,022	562,368	49,654	8.83		
1958	656,004	612,107	43,897	7.17		
1959	677,257	655,990	21,267	3.24		
1960	745,700	676,742	68,958	10.19		
1961	815,577	745,700	69,877	9.37		
1962	876,138	815,577	60,561	7.43		
1963	932,012	876,124	55,887	6.38		
1964	1,012,059	934,704	77,355	8.28		
1965	1,102,221	1,012,059	90,161	8.91		
1966	1,202,605	1,102,221	100,384	9.11		
1967	1,232,064	1,202,605	29,459	2.45		
1968	1,270,484	1,232,064	38,420	3.12		
1969	1,384,880	1,270,484	114,396	9.00		
1970	1,562,165	1,390,195	171,971	12.37		

TABLE 4:34 VALUE OF ANNUAL PRODUCT
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL UNITS			
	FACTORY PRODUCTION $	-DAIRY FACTORIES- POUNDS	DOLLARS	REV. FACTORY PRODUCTION $
1923	141,742	19,182	38,364	103,378
1924	155,264	18,927	37,854	117,410
1925	155,892	20,037	40,074	115,818
1926	150,512	19,798	39,596	110,916
1927	159,034	19,022	38,044	120,990
1928	169,188	23,275	46,550	122,638
1929	169,004	22,882	45,764	123,240
1930	143,322	17,319	34,638	108,684
1931	121,504	17,257	34,514	86,990
1932	120,316	16,613	33,226	87,090
1933	131,818	17,911	35,822	95,996
1934	146,628	18,172	36,344	110,284
1935	167,532	23,365	46,730	120,802
1936	198,758	26,869	53,738	145,020
1937	213,004	27,767	55,534	157,470
1938	213,216	27,335	54,670	158,546
1939	240,648	29,841	59,682	180,966
1940	274,800	32,771	65,542	209,258
1941	291,276	31,345	62,690	228,586
1942	311,556	29,490	58,980	252,576
1943	330,040	28,495	56,990	273,050
1944	357,172	32,452	64,904	292,268
1945	367,086	27,884	55,768	311,318
1946	411,300	31,504	63,008	348,292
1947	518,776	46,922	93,844	424,932
1949	632,968	58,682	117,364	515,604
1950	757,334	66,848	133,696	623,638
1951	861,968	77,544	155,088	706,880
1952	927,880	87,521	175,042	752,838
1953	990,426	84,409	168,818	821,608
1954	1,101,236	85,015	170,030	931,206
1955	1,171,884	89,874	179,748	992,136
1956	1,204,082	90,527	181,054	1,023,028
1957	1,289,858	93,502	187,004	1,102,854
1958	1,318,910	86,351	172,702	1,146,208
1959	1,411,234	93,801	187,602	1,223,632
1960	1,513,600	87,684	175,368	1,338,232
1961	1,613,016	88,318	176,636	1,436,380
1962	1,681,244	90,069	180,138	1,501,106
1963	1,924,084		199,896	1,724,188
1964	2,185,206		231,430	1,953,776
1965	2,374,447		243,150	2,131,297
1966	2,483,742		257,272	2,226,470
1967	2,538,349		237,839	2,300,510
1968	2,790,448		243,141	2,547,307
1969	3,152,869		225,043	2,927,826
1970	3,597,403		263,360	3,334,043

TABLE 4:35 VALUE OF PRODUCTION, CONSTANT (1984) DOLLARS
REVISED FACTORY PRODUCTION, 1923-1970

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX HOME PRODUCED	THOUSANDS CONSTANT DOLLARS
1923	103,378	130	1,714,185
1924	117,410	135	1,879,892
1925	115,818	136	1,840,833
1926	110,916	130	1,839,178
1927	120,990	126	2,074,856
1928	122,638	127	2,075,805
1929	123,240	127	2,093,139
1930	108,684	122	1,921,569
1931	86,990	108	1,737,384
1932	87,090	102	1,841,697
1933	95,996	100	2,070,634
1934	110,284	103	2,309,540
1935	120,802	111	2,347,477
1936	145,020	114	2,743,931
1937	157,470	122	2,784,121
1938	158,546	125	2,735,870
1939	180,966	133	2,934,915
1940	209,258	136	3,318,893
1941	228,586	144	3,424,028
1942	252,576	151	3,607,990
1943	273,050	153	3,849,470
1944	292,268	156	4,041,167
1945	311,318	159	4,223,352
1946	348,292	162	4,637,443
1947	424,932	173	5,298,141
1949	515,604	194	5,732,772
1950	623,638	221	6,086,820
1951	706,880	257	5,932,841
1952	752,838	279	5,820,328
1953	821,608	295	6,007,486
1954	931,206	309	6,500,360
1955	992,136	309	6,925,687
1956	1,023,028	326	6,768,931
1957	1,102,854	323	7,364,879
1958	1,146,208	331	7,469,398
1959	1,223,632	335	7,878,729
1960	1,338,232	338	8,540,137
1961	1,436,380	336	9,221,047
1962	1,501,106	333	9,723,380
1963	1,724,188	339	10,970,718
1964	1,953,776	357	11,804,747
1965	2,131,297	368	12,492,412
1966	2,226,470	374	12,840,898
1967	2,300,510	380	13,058,421
1968	2,547,307	399	13,770,780
1969	2,927,826	420	15,036,478
1970	3,334,043	445	16,160,743
Dec 1984		2,157	

TABLE 4:36 VALUE OF PRODUCTION, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	----THOUSANDS CONSTANT DOLLARS----					
		PR.	----INCREASE-----		----DECREASE----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	1,714,185					
1924	1,879,892	1,714,185	165,707	9.67		
1925	1,840,833	1,879,892			-39,059	-2.08
1926	1,839,178	1,840,833			-1,655	-0.09
1927	2,074,856	1,839,178	235,678	12.81		
1928	2,075,805	2,074,856	948	0.05		
1929	2,093,139	2,075,805	17,335	0.84		
1930	1,921,569	2,093,139			-171,570	-8.20
1931	1,737,384	1,921,569			-184,185	-9.59
1932	1,841,697	1,737,384	104,314	6.00		
1933	2,070,634	1,841,697	228,936	12.43		
1934	2,309,540	2,070,634	238,906	11.54		
1935	2,347,477	2,309,540	37,937	1.64		
1936	2,743,931	2,347,477	396,454	16.89		
1937	2,784,121	2,743,931	40,190	1.46		
1938	2,735,870	2,784,121			-48,251	-1.73
1939	2,934,915	2,735,870	199,045	7.28		
1940	3,318,893	2,934,915	383,979	13.08		
1941	3,424,028	3,318,893	105,134	3.17		
1942	3,607,990	3,424,028	183,962	5.37		
1943	3,849,470	3,607,990	241,480	6.69		
1944	4,041,167	3,849,470	191,698	4.98		
1945	4,223,352	4,041,167	182,185	4.51		
1946	4,637,443	4,223,352	414,092	9.80		
1947	5,298,141	4,637,443	660,697	14.25		
1949	5,732,772	5,298,141	434,632	8.20		
1950	6,086,820	5,732,772	354,047	6.18		
1951	5,932,841	6,086,820			-153,979	-2.53
1952	5,820,328	5,932,841			-112,513	-1.90
1953	6,007,486	5,820,328	187,158	3.22		
1954	6,500,360	6,007,486	492,874	8.20		
1955	6,925,687	6,500,360	425,327	6.54		
1956	6,768,931	6,925,687			-156,757	-2.26
1957	7,364,879	6,768,931	595,949	8.80		
1958	7,469,398	7,364,879	104,518	1.42		
1959	7,878,729	7,469,398	409,331	5.48		
1960	8,540,137	7,878,729	661,408	8.39		
1961	9,221,047	8,540,137	680,909	7.97		
1962	9,723,380	9,221,047	502,334	5.45		
1963	10,970,718	9,723,380	1,247,338	12.83		
1964	11,804,747	10,970,718	834,029	7.60		
1965	12,492,412	11,804,747	687,665	5.83		
1966	12,840,898	12,492,412	348,486	2.79		
1967	13,058,421	12,840,898	217,523	1.69		
1968	13,770,780	13,058,421	712,359	5.46		
1969	15,036,478	13,770,780	1,265,698	9.19		
1970	16,160,743	15,036,478	1,124,265	7.48		

TABLE 4:37 VALUE OF PLANT & PREMISES
REVISED FACTORY PRODUCTION, 1923-70

	---------THOUSANDS OF NOMINAL UNITS---------			
	FACTORY PRODUCTION $	-DAIRY FACTORIES- POUNDS	DOLLARS	REV. FACTORY PRODUCTION $
1923	59,422	3,253	6,506	52,916
1924	63,212	3,596	7,192	56,020
1925	66,932	3,751	7,502	59,430
1926	68,416	4,366	8,732	59,684
1927	69,172	3,914	7,828	61,344
1928	70,474	3,904	7,808	62,666
1929	72,664	3,895	7,790	64,874
1930	70,824	3,888	7,776	63,048
1931	67,408	3,877	7,754	59,654
1932	67,314	3,764	7,528	59,786
1933	65,288	3,627	7,254	58,034
1934	66,108	3,609	7,218	58,890
1935	67,660	3,562	7,124	60,536
1936	70,140	3,652	7,304	62,836
1937	74,046	3,555	7,110	66,936
1938	78,556	3,635	7,270	71,286
1939	83,466	3,644	7,288	76,178
1940	85,844	3,495	6,990	78,854
1941	88,938	3,531	7,062	81,876
1942	90,802	3,250	6,500	84,302
1943	93,418	3,075	6,150	87,268
1944	99,058	3,070	6,140	92,918
1945	105,040	3,210	6,420	98,620
1946	113,150	3,528	7,056	106,094
1947	128,592	4,665	9,330	119,262
1949	156,060	6,386	12,772	143,288
1950	176,080	7,229	14,458	161,622
1951	195,044	7,413	14,826	180,218
1952	218,200	9,716	19,432	198,768
1953	244,538	12,489	24,978	219,560
1954	276,548	12,744	25,488	251,060
1955	337,146	12,956	25,912	311,234
1956	360,246	14,901	29,802	330,444
1957	378,574	15,321	30,642	347,932
1958	411,772	15,730	31,460	380,312
1959	448,454	17,479	34,958	413,496
1960	498,610	15,893	31,786	466,824
1961	561,080	16,292	32,584	528,496
1962	634,720	16,765	33,530	601,190
1963	673,922		32,484	641,438
1964	747,298		35,064	712,234
1965	853,540		44,178	809,362
1966	948,392		48,789	899,603
1967	989,558		52,891	936,667
1968	1,049,549		64,234	985,315
1969	1,215,965		64,651	1,151,314
1970	1,329,125		67,671	1,261,454

TABLE 4:38 VALUE OF PLANT & PREMISES, CONSTANT (1984) DOLLARS
REVISED FACTORY PRODUCTION, 1923-1970

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX IMPORTED	THOUSANDS CONSTANT DOLLARS
1923	52,916	115	992,969
1924	56,020	113	1,066,751
1925	59,430	112	1,148,660
1926	59,684	105	1,230,474
1927	61,344	98	1,347,334
1928	62,666	96	1,408,379
1929	64,874	95	1,472,981
1930	63,048	93	1,462,307
1931	59,654	91	1,413,996
1932	59,786	91	1,417,125
1933	58,034	96	1,303,951
1934	58,890	95	1,337,113
1935	60,536	95	1,374,486
1936	62,836	95	1,426,708
1937	66,936	103	1,401,757
1938	71,286	104	1,478,499
1939	76,178	106	1,550,150
1940	78,854	125	1,360,705
1941	81,876	140	1,261,475
1942	84,302	154	1,180,775
1943	87,268	170	1,107,277
1944	92,918	175	1,145,281
1945	98,620	178	1,195,075
1946	106,094	177	1,292,908
1947	119,262	181	1,421,260
1949	143,288	199	1,553,127
1950	161,622	211	1,652,221
1951	180,218	246	1,580,204
1952	198,768	278	1,542,239
1953	219,560	264	1,793,905
1954	251,060	252	2,148,954
1955	311,234	256	2,622,390
1956	330,444	263	2,710,143
1957	347,932	270	2,779,590
1958	380,312	279	2,940,262
1959	413,496	286	3,118,569
1960	466,824	282	3,570,707
1961	528,496	283	4,028,148
1962	601,190	283	4,582,215
1963	641,438	289	4,787,480
1964	712,234	289	5,315,878
1965	809,362	295	5,917,945
1966	899,603	300	6,468,146
1967	936,667	311	6,496,433
1968	985,315	348	6,107,254
1969	1,151,314	364	6,822,484
1970	1,261,454	387	7,030,895
Dec 1984		2,157	

TABLE 4:39 VALUE OF PLANT & PREMISES, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-1970

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	992,969					
1924	1,066,751	992,969	73,782	7.43		
1925	1,148,660	1,066,751	81,910	7.68		
1926	1,230,474	1,148,660	81,814	7.12		
1927	1,347,334	1,230,474	116,860	9.50		
1928	1,408,379	1,347,334	61,044	4.53		
1929	1,472,981	1,408,379	64,602	4.59		
1930	1,462,307	1,472,981			-10,674	-0.72
1931	1,413,996	1,462,307			-48,310	-3.30
1932	1,417,125	1,413,996	3,129	0.22		
1933	1,303,951	1,417,125			-113,174	-7.99
1934	1,337,113	1,303,951	33,162	2.54		
1935	1,374,486	1,337,113	37,373	2.80		
1936	1,426,708	1,374,486	52,222	3.80		
1937	1,401,757	1,426,708			-24,951	-1.75
1938	1,478,499	1,401,757	76,742	5.47		
1939	1,550,150	1,478,499	71,651	4.85		
1940	1,360,705	1,550,150			-189,446	-12.22
1941	1,261,475	1,360,705			-99,229	-7.29
1942	1,180,775	1,261,475			-80,700	-6.40
1943	1,107,277	1,180,775			-73,498	-6.22
1944	1,145,281	1,107,277	38,004	3.43		
1945	1,195,075	1,145,281	49,794	4.35		
1946	1,292,908	1,195,075	97,833	8.19		
1947	1,421,260	1,292,908	128,352	9.93		
1949	1,553,127	1,421,260	131,866	9.28		
1950	1,652,221	1,553,127	99,094	6.38		
1951	1,580,204	1,652,221			-72,017	-4.36
1952	1,542,239	1,580,204			-37,965	-2.40
1953	1,793,905	1,542,239	251,666	16.32		
1954	2,148,954	1,793,905	355,049	19.79		
1955	2,622,390	2,148,954	473,436	22.03		
1956	2,710,143	2,622,390	87,754	3.35		
1957	2,779,590	2,710,143	69,447	2.56		
1958	2,940,262	2,779,590	160,672	5.78		
1959	3,118,569	2,940,262	178,308	6.06		
1960	3,570,707	3,118,569	452,137	14.50		
1961	4,028,148	3,570,707	457,441	12.81		
1962	4,582,215	4,028,148	554,067	13.75		
1963	4,787,480	4,582,215	205,265	4.48		
1964	5,315,878	4,787,480	528,398	11.04		
1965	5,917,945	5,315,878	602,067	11.33		
1966	6,468,146	5,917,945	550,200	9.30		
1967	6,496,433	6,468,146	28,288	0.44		
1968	6,107,254	6,496,433			-389,179	-5.99
1969	6,822,484	6,107,254	715,230	11.71		
1970	7,030,895	6,822,484	208,410	3.05		

TABLE 4:40 VALUE OF PRODUCTION, AVERAGE, CONSTANT & ACTUAL GROWTH
REVISED FACTORY PRODUCTION, 1923-1970

	----THOUSANDS CONSTANT DOLLARS----				AVERAGE	DEVIATION	-CUMULATED GROWTH AT AVERAGE RATE--		
		PR.	-----CHANGE------		ANNUAL	FROM	1923-70	1923-50	1953-70
	TOTAL	TOTAL	ABSOLUTE	%	GROWTH	AVERAGE	5.15%	4.67%	5.89%
1923	1,714,185						1,714,185	1,714,185	1,714,185
1924	1,879,892	1,714,185	165,707	9.67	5.15	4.52	1,802,466	1,794,237	1,815,150
1925	1,840,833	1,879,892	-39,059	-2.08	5.15	-7.23	1,895,293	1,878,028	1,922,063
1926	1,839,178	1,840,833	-1,655	-0.09	5.15	-5.24	1,992,900	1,965,732	2,035,272
1927	2,074,856	1,839,178	235,678	12.81	5.15	7.66	2,095,534	2,057,532	2,155,150
1928	2,075,805	2,074,856	948	0.05	5.15	-5.10	2,203,454	2,153,619	2,282,088
1929	2,093,139	2,075,805	17,335	0.84	5.15	-4.31	2,316,932	2,254,193	2,416,503
1930	1,921,569	2,093,139	-171,570	-8.20	5.15	-13.35	2,436,254	2,359,463	2,558,835
1931	1,737,384	1,921,569	-184,185	-9.59	5.15	-14.74	2,561,721	2,469,650	2,709,551
1932	1,841,697	1,737,384	104,314	6.00	5.15	0.85	2,693,650	2,584,983	2,869,143
1933	2,070,634	1,841,697	228,936	12.43	5.15	7.28	2,832,373	2,705,702	3,038,136
1934	2,309,540	2,070,634	238,906	11.54	5.15	6.39	2,978,240	2,832,058	3,217,082
1935	2,347,477	2,309,540	37,937	1.64	5.15	-3.51	3,131,620	2,964,315	3,406,568
1936	2,743,931	2,347,477	396,454	16.89	5.15	11.74	3,292,898	3,102,749	3,607,215
1937	2,784,121	2,743,931	40,190	1.46	5.15	-3.69	3,462,482	3,247,647	3,819,680
1938	2,735,870	2,784,121	-48,251	-1.73	5.15	-6.88	3,640,800	3,399,312	4,044,659
1939	2,934,915	2,735,870	199,045	7.28	5.15	2.13	3,828,301	3,558,060	4,282,889
1940	3,318,893	2,934,915	383,979	13.08	5.15	7.93	4,025,459	3,724,221	4,535,152
1941	3,424,028	3,318,893	105,134	3.17	5.15	-1.98	4,232,770	3,898,143	4,802,272
1942	3,607,990	3,424,028	183,962	5.37	5.15	0.22	4,450,758	4,080,186	5,085,126
1943	3,849,470	3,607,990	241,480	6.69	5.15	1.54	4,679,972	4,270,731	5,384,640
1944	4,041,167	3,849,470	191,698	4.98	5.15	-0.17	4,920,990	4,470,174	5,701,795
1945	4,223,352	4,041,167	182,185	4.51	5.15	-0.64	5,174,421	4,678,931	6,037,631
1946	4,637,443	4,223,352	414,092	9.80	5.15	4.65	5,440,904	4,897,437	6,393,247
1947	5,298,141	4,637,443	660,697	14.25	5.15	9.10	5,721,111	5,126,147	6,769,810

TABLE 4:40 VALUE OF PRODUCTION, AVERAGE, CONSTANT & ACTUAL GROWTH
REVISED FACTORY PRODUCTION, 1923-1970

	----THOUSANDS CONSTANT DOLLARS----				AVERAGE	DEVIATION	-CUMULATED GROWTH AT AVERAGE RATE--		
		PR.	-----CHANGE-------		ANNUAL	FROM	1923-70	1923-50	1953-70
	TOTAL	TOTAL	ABSOLUTE	%	GROWTH	AVERAGE	5.15%	4.67%	5.89%
1949	5,732,772	5,298,141	434,632	8.20	5.15	3.05	6,015,748	5,365,538	7,168,551
1950	6,086,820	5,732,772	354,047	6.18	5.15	1.03	6,325,559	5,616,109	7,590,779
1951	5,932,841	6,086,820	-153,979	-2.53	5.15	-7.68	6,651,325	5,878,381	8,037,876
1952	5,820,328	5,932,841	-112,513	-1.90	5.15	-7.05	6,993,868	6,152,902	8,511,307
1953	6,007,486	5,820,328	187,158	3.22	5.15	-1.93	7,354,052	6,440,242	9,012,623
1954	6,500,360	6,007,486	492,874	8.20	5.15	3.05	7,732,786	6,741,001	9,543,466
1955	6,925,687	6,500,360	425,327	6.54	5.15	1.39	8,131,025	7,055,806	10,105,576
1956	6,768,931	6,925,687	-156,757	-2.26	5.15	-7.41	8,549,772	7,385,312	10,700,795
1957	7,364,879	6,768,931	595,949	8.80	5.15	3.65	8,990,086	7,730,206	11,331,072
1958	7,469,398	7,364,879	104,518	1.42	5.15	-3.73	9,453,075	8,091,207	11,998,472
1959	7,878,729	7,469,398	409,331	5.48	5.15	0.33	9,939,908	8,469,066	12,705,182
1960	8,540,137	7,878,729	661,408	8.39	5.15	3.24	10,451,814	8,864,572	13,453,517
1961	9,221,047	8,540,137	680,909	7.97	5.15	2.82	10,990,082	9,278,547	14,245,929
1962	9,723,380	9,221,047	502,334	5.45	5.15	0.30	11,556,071	9,711,855	15,085,014
1963	10,970,718	9,723,380	1,247,338	12.83	5.15	7.68	12,151,209	10,165,399	15,973,522
1964	11,804,747	10,970,718	834,029	7.60	5.15	2.45	12,776,996	10,640,123	16,914,362
1965	12,492,412	11,804,747	687,665	5.83	5.15	0.68	13,435,012	11,137,017	17,910,618
1966	12,840,898	12,492,412	348,486	2.79	5.15	-2.36	14,126,915	11,657,116	18,965,553
1967	13,058,421	12,840,898	217,523	1.69	5.15	-3.46	14,854,451	12,201,503	20,082,624
1968	13,770,780	13,058,421	712,359	5.46	5.15	0.31	15,619,455	12,771,313	21,265,491
1969	15,036,478	13,770,780	1,265,698	9.19	5.15	4.04	16,423,857	13,367,733	22,518,028
1970	16,160,743	15,036,478	1,124,265	7.48	5.15	2.33	17,269,686	13,992,007	23,844,340

APPENDIX 5. BOURGEOIS CATEGORIES

BOURGEOIS CATEGORIES

The difference between the categories in Appendix 3 and categories in this Appendix, although guided by the discussion in Chapters 4 and 5 of the main text, remains somewhat arbitrary. The main difference results from a shift from more descriptive to the more analytic categories.

Aggregates in official statistics are "bourgeois" categories in the precise sense that they accept a bourgeois conception of what is and is not productive activity. This conception changes over time, as the constant redefinitions of "factory production" testify. The generation and supply of electricity, to cite but one case, is deleted simply on the ground that, as a "state owned monopoly", prices for its product are not directly determined by the market. In bourgeois theory, the value of anything is the price it would fetch in the market. Only goods produced for the market, or whose prices are directly determined by current market prices, are considered to possess "value" in a "real", "economic" etc. sense.

The deletion of tramways and vehicle repairs reflects a further bourgeois conceptual distinction between "the production of goods and the production of

services". This distinction was scathingly criticised one hundred and twenty years ago by Marx, (Capital, Volume Three, see also Volume 4 of Capital, Theories of Surplus Value, Part 1, and especially Addenda 12.E) as baseless not only in fact but also in terms of bourgeois economic theory.

This being granted, a distinction can be drawn between those "semi-empirical" bourgeois aggregates which do reflect some real activity involving real (if arbitrarily selected) people and those which serve merely to justify the existence of profits. "Bourgeois categories" are all those categories used in official statistics to account for the difference between costs of production (sum of input "values") and the "value" of the total product (sum of sale prices): Added-Value (Value Added), New Added-Value (New Value Added), Net Output (Net Value Added) and Manufacturers' Surpluses.

These amalgams attempt to straddle both the income determination and the output determination of the level of economic activity (see chapter 3 of the main text) in a single formula. They deal simultaneously with the production of goods, the production of incomes and the distribution of incomes. Bourgeois economists use them as variables to explain fluctuations in the level of economic activity, as is explained in Chapter Three of

the main text.

"Value Added" equals the value of the final product less the cost of raw materials, i.e., it is the "value" added to the raw materials in the manufacturing process.

A more recent concept is "New Value Added (New Added Value)", defined as the sale price of the product less the costs of raw material and "Other Productive Expenses" (costs incurred in production other than for raw materials and wages, see Appendix 3.E). In other words, "New Value-Added" equals the Wages & Salaries of Persons Engaged plus Manufacturers' Surplus (defined below). Both categories treat raw materials and incidental costs of production as "inert" in the production process; their value is merely reproduced. In this respect they are compatible with Marx's approach.

The aggregate New Value-Added is entered into the National Accounts as the contribution of factory production (later, Industrial Production) to Gross Domestic Product.

The most recent concept is Net Output, or Net Value-Added. Net Output consists of "the rewards to the

factors of production, i.e., salaries and wages, interest on borrowed capital, and manufacturers' surpluses. These three items are the components of national income or its component aggregate, net domestic output at factor cost. Net Output (Net Value-Added) was first used in the 1964 Census." (Statistics Of Industrial Production For The Year 1970-71, p9). Net Value Added is thus equivalent to New Value Added plus the interest paid on borrowed capital.

Of the three terms, Net Output comes closest to the marxist conception of newly created value insofar as it implies that people outside the direct production process - in commercial and finance capital sectors - take income from it. Roughly speaking Wages & Salaries represent the cost of reproducing Persons Engaged, while Manufacturers' Surplus plus interest paid on borrowed capital is income from surplus-value.

But Net Output does not take into account the difference between productive and non-productive labour, i.e., it does not distinguish between wage payments which are (1) variable capital outlays, (2) circulating capital outlays and (3) appropriations from surplus-value (see chapter 3 of the main text). Net Output, in the bourgeois sense, implies that all the incomes are newly generated value. This assumption is

compatible with marxist economic theory only if all incomes of non-productive persons engaged are held to be appropriations from surplus-value (Anhwar Shaikh's solution). Finally, Net Output treats rent payments, and consequently the incomes of rentier capitalists, as costs of production, ignoring that rentiers' profits are also income derived from newly created value. These issues are taken up in more detail in Appendix 6, "From Bourgeois to Marxian Categories", below.

The conceptual relations between value-added, new value-added and net output are shown in the following schema:-

VALUE OF PRODUCT	less	RAW MATERIALS	equals	VALUE ADDED
VALUE ADDED	less	OTHER PRODUCTIVE	equals	NEW VALUE
NEW VALUE ADDED	plus	INTEREST PAYMENTS ON BORROWED CAP.	equals	NET OUTPUT or NET VALUE ADDED

Unfortunately matters are not as straightforward

as the schema suggests. Other Productive Expenses as a component of Value-Added and New Value-Added include both depreciation charges and interest payments on borrowed capital. But when it is an entry for Net Output it includes neither. An additional complication is that while data for Other Productive Expenses is available for the whole of the 1923-70 period, depreciation is classified separately only after 1925 and interest payments only from 1954. In the sub-accounts for individual industries there are moreover no depreciation entries for gas, electricity or tramways for 1926 and 1927.

Fortunately the Department of Statistics has published both an extended Net Output series and an extended depreciation series (Statistics of Industrial Production, 1970-71, p17: "General Summary, Table 1, Factories-Historical Survey"). It is therefore possible to calculate interest payments back to 1930, simply by adding "Other Productive Expenses" and depreciation from the Net Output series and subtracting this total from Other Productive Expenses in the Value-Added series (or the figures in the annual reports). In the long-run historical summaries values for gas, tramways and electricity have been deleted from the data for Factory Production (or, as we term it, Manufacture). We can therefore use the depreciation series as it

stands. Interest payments to 1930 must be estimated. The method used is given in tables 5:10 to 5:14 below. These estimates are those used in calculating Other Productive Expenses 2 in Appendices 3 & 4 above.

"Manufacturers' surplus" refers to the sale price of the total product less the costs of raw materials plus wages and salaries plus Other Productive Expenses. It is, in other words, and from the standpoint of the manufacturer, the sum of the sale prices less the sum of all production costs. Alternatively, Manufacturers' Surplus can be defined as New Added Value less the cost of Wages & Salaries. It will equal Net Value Added less salaries and wages plus interest paid on borrowed capital.

As mentioned earlier, there are many redefinitions of "factory production" and many revisions of earlier figures through the period 1923-70. As well there are no estimates for Net Output prior to 1930 and no figures for Value Added, New Value Added or Net Output at the level of individual industries for most of the period. For all these reasons it is impossible to arrive at Value Added, Net Value Added or Net Output for what we have defined as "Factory Production" or "Revised Factory Production" simply by successively subtracting values for these aggregates for industries

excluded from the series. All values in the tables of this appendix are the result of our own calculations.

The calculations are made using the principles of official accounting (outlined pp192-195 above) and results brought forward from earlier appendices. The appendix compiles series for "Revised Factory Production" only. There are 35 tables in this set, 20 (5.1 to 5.20) to produce series for Value-Added, New Value-Added and Net Output for the entire period.

The remaining 14 tables are generated to test the theories outlined in chapters 3, 4 & 5 of the main text.

Table 5:1 shows the calculation of Added-Value, 5:2 the conversion of nominal dollars into constant (1984) dollars and 5:3 the changes and percentage change in Value-Added year by year. The Home Produced Wholesale Price Index is used to reflate nominal dollars (see Appendix 1, above), because the vast bulk of factory output is sold wholesale and not retail.

Tables 5:4, 5:5 & 5:6 are identical in format, but deal with New Added Value. Tables 5:7, 5:8 & 5:9 show Manufacturers' Surplus in the same way.

APPENDIX 5. BOURGEOIS CATEGORIES

Tables 5:10 & 5:11 show the calculation of interest payments for the period 1930 to 1954 inclusive using the method stated above (p196f). In Tables 5:12, 5:13 and 5:14, the basis of our estimates for interest payments from 1923 to 1929 is shown. The method is not sophisticated and the estimates far from "robust".

To estimate values for 1923-29 some measure is required to extrapolate them from other known values. To this end the calculated values from 5:10 & 5:11 are converted to percentages of the sum of Rent, Repairs & Maintenance and Other (see 5:12). The percentage for year average at 16.5%. Next, values for the missing years are extrapolated on the basis of this average.

Interest paid to financiers from the sector is subject to relatively autonomous influences (interest rates, for example, are a crucial determinant. It is possible to establish prevailing rates of interest on bank overdrafts but it is impossible to establish what proportion of capital is borrowed from banking, as opposed to finance capital). An additional complication is the number of turnovers of circulating capital per year (see Appendix 7, below). Undoubtedly a more adequate measure could be developed, but this is not warranted by our study.

APPENDIX 5. BOURGEOIS CATEGORIES

In the end interest payments were estimated as 6.96% of the cost of Other Productive Expenses 1 (other productive expenses including interest and depreciation). Table 5:13 shows the margin of error. The formula used is (predicted value*100)/known value. Thus values in 5.13 are the percentage deviation of extrapolated from known values.

Table 5:14 shows the estimates and assembles estimated, calculated and reported ("known") interest payments for the whole period. Table 5:15 shows the subtraction of interest paid by dairy factories. In 5:16 the nominal values of 5:15 are converted to constant dollars. 5:17 shows the change and percentage change in the volume of interest paid (constant dollars) on an annual basis. 5:18 shows the calculation of Net Output in nominal dollars, 5:19 the conversion to constant dollars and 5:20 records the change and percentage change in constant dollar Net Output.

Table 5:21 shows the percentage distribution of new added value, between Wages & Salaries and Manufacturers' Surplus. This provides an empirical test of the hypothesis that the crucial determinant in income distribution, and thereby the level of economic activity, is state policy (see chapters 3, 4 & 5 of the

main text). Tables 5:22 (nominal dollars) and 5:23 (constant dollars) show the calculation of average gross incomes for (1) Persons Engaged and (2) Establishments, as a preliminary test of Marx's relative immiseration thesis. The validity of this thesis is evaluated more carefully below (Appendix 6). These tables are included here in anticipation of objections to the effect that the empirical verification of Marx's thesis is the result of "fiddling the figures". All operations shown fully accord with bourgeois theory and practice. Table 5:24 indexes the growth in incomes for Persons Engaged and Establishments (1923 = 100) .

Table 5:25 shows the distribution of incomes in Net Output, including the income paid as interest. 5:26 shows the calculation in nominal dollar terms of the Net Output per Person Engaged and their gross income as a percentage of this total. 5:27 indexes both Net Output and average gross annual income, per person engaged (1923 = 100).

Table 5:28 hows the total investment fund on an annual basis. 5:29 shows the annual investment in terms of the proportions going to fixed assets, raw materials etc. Since the various items are reflated against different indices of price inflation, these

tables are reproduced in nominal dollars in 5:30 & 5:31.

Table 5:32 shows the annual rate of investment of Revised Factory Production. The series is not a good indicator of changes in the rate of investment, or the rate of accumulation of capital, because it treats all costs equally as if they were stocks whereas the funds required for raw materials, other productive expenses and wage payments are flows (see Appendix 7, below). In the course of a year, the outlay on wages and raw materials is recouped each time the final good is sold. Annual costs consequently represent the same sum spent several times over. An increase in annual expenditure, as shown in Table 5:32 may be attributable to (1) a genuine increase, (2) more rapid rotations of the same sum or, what is most likely, (3) quicker rotations and increased volumes of expenditure combined.

To test the theorem that the current level of investment is largely a function of the surplus left over at the end of the last cycle of production (see chapter 3 of the main text) two tables 5:33 and 5:34 are included; 5:33 shows the ratio of "new investment" (Total Yr2-Total Yr1) to the surplus of the previous year. In keeping with our remarks in the previous paragraph, this table should not be taken to imply that

an increase in annual expenditure is automatically equivalent to an increase in the investment fund. The purpose of Tables 5:33 & 5:34 is to refute any notion of a constant positive correlation between levels of surplus and levels of investment. Table 5:34 follows the format of 5:34 and shows the relationship between the previous year's surplus and fixed capital formation only.

Finally, in Table 5:35 the contribution of Revised Factory Production to the annual "national income" of New Zealand is determined by calculating New Value Added as a percentage fraction of Gross Domestic Product.

TABLE 5:1 VALUE ADDED IN MANUFACTURE
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS		
	TOTAL VALUE OF PRODUCTION	COST OF RAW MATERIALS	VALUE ADDED IN MANUFACTURE
1923	103,378	57,946	45,432
1924	117,410	68,820	48,590
1925	115,818	67,382	48,436
1926	110,916	60,370	50,546
1927	120,990	71,422	49,568
1928	122,638	69,414	53,224
1929	123,240	68,186	55,054
1930	108,684	58,294	50,390
1931	86,990	46,680	40,310
1932	87,090	48,142	38,948
1933	95,996	54,478	41,518
1934	110,284	64,220	46,064
1935	120,802	69,428	51,374
1936	145,020	83,940	61,080
1937	157,470	90,216	67,254
1938	158,546	90,284	68,262
1939	180,966	103,218	77,748
1940	209,258	123,270	85,988
1941	228,586	133,302	95,284
1942	252,576	147,350	105,226
1943	273,050	159,366	113,684
1944	292,268	170,952	121,316
1945	311,318	180,952	130,366
1946	348,292	203,608	144,684
1947	424,932	259,486	165,446
1949	515,604	313,554	202,050
1950	623,638	402,612	221,026
1951	706,880	439,000	267,880
1952	752,838	477,160	275,678
1953	821,608	512,676	308,932
1954	931,206	575,546	355,660
1955	992,136	606,084	386,052
1956	1,023,028	626,194	396,834
1957	1,102,854	667,996	434,858
1958	1,146,208	682,862	463,346
1959	1,223,632	710,386	513,246
1960	1,338,232	783,468	554,764
1961	1,436,380	820,496	615,884
1962	1,501,106	845,684	655,422
1963	1,724,188	984,058	740,130
1964	1,953,776	1,137,830	815,946
1965	2,131,297	1,203,081	928,216
1966	2,226,470	1,240,263	986,207
1967	2,300,510	1,286,478	1,014,032
1968	2,547,307	1,451,594	1,095,713
1969	2,927,826	1,674,899	1,252,927
1970	3,334,043	1,878,245	1,455,798

TABLE 5:2 VALUE ADDED IN MANUFACTURE, CONSTANT (1984) DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX HOME PRODUCED	THOUSANDS CONSTANT DOLLARS
1923	45,432	130	753,341
1924	48,590	135	777,991
1925	48,436	136	769,851
1926	50,546	130	838,140
1927	49,568	126	850,041
1928	53,224	127	900,884
1929	55,054	127	935,051
1930	50,390	122	890,912
1931	40,310	108	805,080
1932	38,948	102	823,636
1933	41,518	100	895,543
1934	46,064	103	964,661
1935	51,374	111	998,322
1936	61,080	114	1,155,698
1937	67,254	122	1,189,073
1938	68,262	125	1,177,929
1939	77,748	133	1,260,921
1940	85,988	136	1,363,795
1941	95,284	144	1,427,275
1942	105,226	151	1,503,129
1943	113,684	153	1,602,721
1944	121,316	156	1,677,427
1945	130,366	159	1,768,550
1946	144,684	162	1,926,441
1947	165,446	173	2,062,815
1949	202,050	194	2,246,504
1950	221,026	221	2,157,254
1951	267,880	257	2,248,316
1952	275,678	279	2,131,317
1953	308,932	295	2,258,869
1954	355,660	309	2,482,714
1955	386,052	309	2,694,868
1956	396,834	326	2,625,678
1957	434,858	323	2,903,990
1958	463,346	331	3,019,448
1959	513,246	335	3,304,691
1960	554,764	338	3,540,313
1961	615,884	336	3,953,755
1962	655,422	333	4,245,481
1963	740,130	339	4,709,323
1964	815,946	357	4,929,959
1965	928,216	368	5,440,657
1966	986,207	374	5,687,830
1967	1,014,032	380	5,755,966
1968	1,095,713	399	5,923,441
1969	1,252,927	420	6,434,675
1970	1,455,798	445	7,056,531

TABLE 5:3 VALUE ADDED, CHANGE & PERCENTAGE CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	753,341					
1924	777,991	753,341	24,650	3.27		
1925	769,851	777,991			-8,140	-1.05
1926	838,140	769,851	68,289	8.87		
1927	850,041	838,140	11,901	1.42		
1928	900,884	850,041	50,843	5.98		
1929	935,051	900,884	34,167	3.79		
1930	890,912	935,051			-44,139	-4.72
1931	805,080	890,912			-85,831	-9.63
1932	823,636	805,080	18,555	2.30		
1933	895,543	823,636	71,908	8.73		
1934	964,661	895,543	69,117	7.72		
1935	998,322	964,661	33,661	3.49		
1936	1,155,698	998,322	157,376	15.76		
1937	1,189,073	1,155,698	33,375	2.89		
1938	1,177,929	1,189,073			-11,144	-0.94
1939	1,260,921	1,177,929	82,991	7.05		
1940	1,363,795	1,260,921	102,874	8.16		
1941	1,427,275	1,363,795	63,480	4.65		
1942	1,503,129	1,427,275	75,854	5.31		
1943	1,602,721	1,503,129	99,592	6.63		
1944	1,677,427	1,602,721	74,706	4.66		
1945	1,768,550	1,677,427	91,123	5.43		
1946	1,926,441	1,768,550	157,891	8.93		
1947	2,062,815	1,926,441	136,374	7.08		
1949	2,246,504	2,062,815	183,689	8.90		
1950	2,157,254	2,246,504			-89,251	-3.97
1951	2,248,316	2,157,254	91,062	4.22		
1952	2,131,317	2,248,316			-116,999	-5.20
1953	2,258,869	2,131,317	127,552	5.98		
1954	2,482,714	2,258,869	223,845	9.91		
1955	2,694,868	2,482,714	212,154	8.55		
1956	2,625,678	2,694,868			-69,190	-2.57
1957	2,903,990	2,625,678	278,312	10.60		
1958	3,019,448	2,903,990	115,458	3.98		
1959	3,304,691	3,019,448	285,243	9.45		
1960	3,540,313	3,304,691	235,622	7.13		
1961	3,953,755	3,540,313	413,442	11.68		
1962	4,245,481	3,953,755	291,726	7.38		
1963	4,709,323	4,245,481	463,842	10.93		
1964	4,929,959	4,709,323	220,637	4.69		
1965	5,440,657	4,929,959	510,698	10.36		
1966	5,687,830	5,440,657	247,173	4.54		
1967	5,755,966	5,687,830	68,136	1.20		
1968	5,923,441	5,755,966	167,475	2.91		
1969	6,434,675	5,923,441	511,234	8.63		
1970	7,056,531	6,434,675	621,856	9.66		

TABLE 5:4 NEW VALUE ADDED IN MANUFACTURE
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS		
	VALUE ADDED IN MANUFACTURE	OTHER PRODUCTIVE EXPENSES 1	NEW VALUE ADDED IN MANUFACTURE
1923	45,432	14,850	30,582
1924	48,590	16,036	32,554
1925	48,436	17,832	30,604
1926	50,546	18,552	31,994
1927	49,568	19,112	30,456
1928	53,224	21,246	31,978
1929	55,054	22,396	32,658
1930	50,390	21,158	29,232
1931	40,310	17,806	22,504
1932	38,948	14,738	24,210
1933	41,518	13,814	27,704
1934	46,064	15,058	31,006
1935	51,374	16,290	35,084
1936	61,080	18,262	42,818
1937	67,254	18,500	48,754
1938	68,262	17,442	50,820
1939	77,748	19,408	58,340
1940	85,988	21,086	64,902
1941	95,284	22,678	72,606
1942	105,226	23,798	81,428
1943	113,684	26,012	87,672
1944	121,316	27,614	93,702
1945	130,366	29,458	100,908
1946	144,684	32,312	112,372
1947	165,446	37,936	127,510
1949	202,050	46,848	155,202
1950	221,026	55,528	165,498
1951	267,880	58,120	209,760
1952	275,678	63,788	211,890
1953	308,932	73,318	235,614
1954	355,660	87,220	268,440
1955	386,052	104,620	281,432
1956	396,834	110,652	286,182
1957	434,858	122,434	312,424
1958	463,346	131,074	332,272
1959	513,246	135,522	377,724
1960	554,764	148,498	406,266
1961	615,884	163,642	452,242
1962	655,422	180,080	475,342
1963	740,130	195,900	544,230
1964	815,946	220,496	595,450
1965	928,216	250,489	677,727
1966	986,207	277,220	708,987
1967	1,014,032	290,567	723,465
1968	1,095,713	316,069	779,644
1969	1,252,927	358,947	893,980
1970	1,455,798	422,891	1,032,907

TABLE 5:5 NEW ADDED VALUE, CONSTANT 1984 DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX HOME PRODUCED	THOUSANDS CONSTANT 1984 DOLLARS
1923	30,582	130	507,102
1924	32,554	135	521,233
1925	30,604	136	486,426
1926	31,994	130	530,516
1927	30,456	126	522,290
1928	31,978	127	541,268
1929	32,658	127	554,672
1930	29,232	122	516,831
1931	22,504	108	449,455
1932	24,210	102	511,970
1933	27,704	100	597,575
1934	31,006	103	649,320
1935	35,084	111	681,767
1936	42,818	114	810,162
1937	48,754	122	861,987
1938	50,820	125	876,950
1939	58,340	133	946,161
1940	64,902	136	1,029,365
1941	72,606	144	1,087,577
1942	81,428	151	1,163,180
1943	87,672	153	1,236,003
1944	93,702	156	1,295,610
1945	100,908	159	1,368,922
1946	112,372	162	1,496,212
1947	127,510	173	1,589,821
1949	155,202	194	1,725,622
1950	165,498	221	1,615,290
1951	209,760	257	1,760,515
1952	211,890	279	1,638,160
1953	235,614	295	1,722,778
1954	268,440	309	1,873,868
1955	281,432	309	1,964,559
1956	286,182	326	1,893,542
1957	312,424	323	2,086,373
1958	332,272	331	2,165,289
1959	377,724	335	2,432,092
1960	406,266	338	2,592,650
1961	452,242	336	2,903,232
1962	475,342	333	3,079,017
1963	544,230	339	3,462,844
1964	595,450	357	3,597,719
1965	677,727	368	3,972,438
1966	708,987	374	4,088,997
1967	723,465	380	4,106,616
1968	779,644	399	4,214,767
1969	893,980	420	4,591,226
1970	1,032,907	445	5,006,698

TABLE 5:6 NEW ADDED VALUE, CHANGE & PERCENTAGE CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	507,102					
1924	521,233	507,102	14,131	2.79		
1925	486,426	521,233			-34,807	-6.68
1926	530,516	486,426	44,090	9.06		
1927	522,290	530,516			-8,226	-1.55
1928	541,268	522,290	18,978	3.63		
1929	554,672	541,268	13,404	2.48		
1930	516,831	554,672			-37,841	-6.82
1931	449,455	516,831			-67,376	-13.04
1932	511,970	449,445	62,525	13.91		
1933	597,575	511,970	85,605	16.72		
1934	649,320	597,575	51,745	8.66		
1935	681,767	649,320	32,447	5.00		
1936	810,162	681,767	128,395	18.83		
1937	861,987	810,162	51,825	6.40		
1938	876,950	861,987	14,963	1.74		
1939	946,161	876,950	69,211	7.89		
1940	1,029,365	946,161	83,204	8.79		
1941	1,087,577	1,029,365	58,212	5.66		
1942	1,163,180	1,087,577	75,603	6.95		
1943	1,236,003	1,163,180	72,823	6.26		
1944	1,295,610	1,236,003	59,607	4.82		
1945	1,368,922	1,295,610	73,312	5.66		
1946	1,496,212	1,368,922	127,290	9.30		
1947	1,589,821	1,496,212	93,609	6.26		
1949	1,725,622	1,589,821	135,801	8.54		
1950	1,615,290	1,725,622			-110,332	-6.39
1951	1,760,515	1,615,290	145,225	8.99		
1952	1,638,160	1,760,515			-122,355	-6.95
1953	1,722,778	1,638,160	84,617	5.17		
1954	1,873,868	1,722,778	151,090	8.77		
1955	1,964,559	1,873,868	90,692	4.84		
1956	1,893,542	1,964,559			-71,018	-3.61
1957	2,086,373	1,893,542	192,832	10.18		
1958	2,165,289	2,086,373	78,916	3.78		
1959	2,432,092	2,165,289	266,802	12.32		
1960	2,592,650	2,432,092	160,559	6.60		
1961	2,903,232	2,592,650	310,582	11.98		
1962	3,079,017	2,903,232	175,785	6.05		
1963	3,462,844	3,079,017	383,827	12.47		
1964	3,597,719	3,462,844	134,875	3.89		
1965	3,972,438	3,597,719	374,719	10.42		
1966	4,088,997	3,972,438	116,559	2.93		
1967	4,106,616	4,088,997	17,619	0.43		
1968	4,214,767	4,106,616	108,151	2.63		
1969	4,591,226	4,214,767	376,459	8.93		
1970	5,006,698	4,591,226	415,472	9.05		

TABLE 5:7 MANUFACTURERS' SURPLUS
REVISED FACTORY PRODUCTION, 1923-70

	-------THOUSANDS OF NOMINAL DOLLARS-------		
	NEW VALUE ADDED IN MANUFACTURE	WAGES & SALARIES	MANUFACTURERS' SURPLUS
1923	30,582	24,662	5,920
1924	32,554	26,652	5,902
1925	30,604	28,754	1,850
1926	31,994	28,740	3,254
1927	30,456	28,226	2,230
1928	31,978	28,534	3,444
1929	32,658	29,622	3,036
1930	29,232	27,148	2,084
1931	22,504	21,490	1,014
1932	24,210	20,412	3,798
1933	27,704	20,486	7,218
1934	31,006	22,840	8,166
1935	35,084	25,720	9,364
1936	42,818	32,042	10,776
1937	48,754	37,022	11,732
1938	50,820	39,294	11,526
1939	58,340	43,454	14,886
1940	64,902	48,052	16,850
1941	72,606	53,014	19,592
1942	81,428	58,478	22,950
1943	87,672	62,658	25,014
1944	93,702	67,914	25,788
1945	100,908	75,412	25,496
1946	112,372	82,492	29,880
1947	127,510	95,764	31,746
1949	155,202	112,092	43,110
1950	165,498	128,900	36,598
1951	209,760	144,470	65,290
1952	211,890	150,672	61,218
1953	235,614	166,898	68,716
1954	268,440	190,396	78,044
1955	281,432	209,016	72,416
1956	286,182	214,580	71,602
1957	312,424	232,266	80,158
1958	332,272	248,660	83,612
1959	377,724	264,088	113,636
1960	406,266	292,408	113,858
1961	452,242	314,256	137,986
1962	475,342	330,484	144,858
1963	544,230	359,934	184,296
1964	595,450	402,534	192,916
1965	677,727	445,041	232,686
1966	708,987	481,560	227,427
1967	723,465	484,484	238,981
1968	779,644	516,327	263,317
1969	893,980	596,703	297,277
1970	1,032,907	720,864	312,043

TABLE 5:8 MANUFACTURERS' SURPLUS, CONSTANT DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX HOME PRODUCED	THOUSANDS CONSTANT 1984 DOLLARS
1923	5,920	130	98,164
1924	5,902	135	94,499
1925	1,850	136	29,404
1926	3,254	130	53,957
1927	2,230	126	38,242
1928	3,444	127	58,294
1929	3,036	127	51,564
1930	2,084	122	36,846
1931	1,014	108	20,252
1932	3,798	102	80,317
1933	7,218	100	155,692
1934	8,166	103	171,010
1935	9,364	111	181,965
1936	10,776	114	203,893
1937	11,732	122	207,426
1938	11,526	125	198,893
1939	14,886	133	241,422
1940	16,850	136	267,246
1941	19,592	144	293,472
1942	22,950	151	327,835
1943	25,014	153	352,648
1944	25,788	156	356,569
1945	25,496	159	345,880
1946	29,880	162	397,847
1947	31,746	173	395,816
1949	43,110	194	479,321
1950	36,598	221	357,203
1951	65,290	257	547,979
1952	61,218	279	473,288
1953	68,716	295	502,442
1954	78,044	309	544,793
1955	72,416	309	505,506
1956	71,602	326	473,759
1957	80,158	323	535,297
1958	83,612	331	544,867
1959	113,636	335	731,680
1960	113,858	338	726,603
1961	137,986	336	885,821
1962	144,858	333	938,314
1963	184,296	339	1,172,644
1964	192,916	357	1,165,602
1965	232,686	368	1,363,869
1966	227,427	374	1,311,658
1967	238,981	380	1,356,532
1968	263,317	399	1,423,496
1969	297,277	420	1,526,730
1970	312,043	445	1,512,532

TABLE 5:9 MANUFACTURERS' SURPLUS, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	----THOUSANDS OF CONSTANT DOLLARS-----					
		PR.	----INCREASE----		-----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	98,164					
1924	94,499	98,164			-3,665	-3.73
1925	29,404	94,499			-65,095	-68.88
1926	53,957	29,404	24,553	83.50		
1927	38,242	53,957			-15,715	-29.12
1928	58,294	38,242	20,052	52.43		
1929	51,564	58,294			-6,730	-11.54
1930	36,846	51,564			-14,718	-28.54
1931	20,252	36,846			-16,594	-45.04
1932	80,317	20,252	60,065	296.59		
1933	155,692	80,317	75,375	93.85		
1934	171,010	155,692	15,318	9.84		
1935	181,965	171,010	10,955	6.41		
1936	203,893	181,965	21,928	12.05		
1937	207,426	203,893	3,533	1.73		
1938	198,893	207,426			-8,533	-4.11
1939	241,422	198,893	42,529	21.38		
1940	267,246	241,422	25,824	10.70		
1941	293,472	267,246	26,226	9.81		
1942	327,835	293,472	34,363	11.71		
1943	352,648	327,835	24,813	7.57		
1944	356,569	352,648	3,921	1.11		
1945	345,880	356,569			-10,689	-3.00
1946	397,847	345,880	51,967	15.02		
1947	395,816	397,847			-2,031	-0.51
1949	479,321	395,816	83,505	21.10		
1950	357,203	479,321			-122,118	-25.48
1951	547,979	357,203	190,776	53.41		
1952	473,288	547,979			-74,691	-13.63
1953	502,442	473,288	29,155	6.16		
1954	544,793	502,442	42,351	8.43		
1955	505,506	544,793			-39,287	-7.21
1956	473,759	505,506			-31,747	-6.28
1957	535,297	473,759	61,537	12.99		
1958	544,867	535,297	9,571	1.79		
1959	731,680	544,867	186,813	34.29		
1960	726,603	731,680			-5,077	-0.69
1961	885,821	726,603	159,218	21.91		
1962	938,314	885,821	52,494	5.93		
1963	1,172,644	938,314	234,330	24.97		
1964	1,165,602	1,172,644			-7,043	-0.60
1965	1,363,869	1,165,602	198,267	17.01		
1966	1,311,658	1,363,869			-52,211	-3.83
1967	1,356,532	1,311,658	44,874	3.42		
1968	1,423,496	1,356,532	66,964	4.94		
1969	1,526,730	1,423,496	103,234	7.25		
1970	1,512,532	1,526,730			-14,198	-0.93

TABLE 5:10 INTEREST PAYMENTS & DEPRECIATION ALLOWANCES N.Z. FACTORY PRODUCTION, 1930-54

	OTHER PRODUCTIVE EXPENSES- FACTORY PRODUCTION	FROM NET OUTPUT SERIES	INTEREST & DEPRECIATION
1930	17,200	13,380	3,820
1931	15,178	12,028	3,150
1932	15,700	11,700	4,000
1933	15,420	11,704	3,716
1934	16,802	12,766	4,036
1935	17,978	13,626	4,352
1936	20,260	15,862	4,398
1937	20,386	15,572	4,814
1938	19,318	14,414	4,904
1939	21,410	16,082	5,328
1940	23,188	17,338	5,850
1941	24,894	18,646	6,248
1942	25,958	19,400	6,558
1943	28,264	21,208	7,056
1944	30,178	22,768	7,410
1945	31,754	23,928	7,826
1946	35,688	26,336	9,352
1947	41,602	30,308	11,294
1949	51,562	33,022	18,540
1950	59,892	42,204	17,688
1951	64,056	46,750	17,306
1952	70,720	51,620	19,100
1953	80,786	59,434	21,352
1954	94,986	70,794	24,192

TABLE 5:11 INTEREST PAYMENTS ON BORROWED CAPITAL
N.Z. FACTORY PRODUCTION, 1930-54

	THOUSANDS OF NOMINAL DOLLARS			
	INTEREST & DEPRECIATION	DEPRECIATION FR. TABLE 6.54	DEPRECIATION GAS ETC.	INTEREST PAYMENTS
1930	3,820	3,620	1,054	1,254
1931	3,150	3,261	916	805
1932	4,000	2,662	256	1,594
1933	3,716	2,690	246	1,272
1934	4,036	2,867	276	1,445
1935	4,352	2,990	230	1,592
1936	4,398	3,124	208	1,482
1937	4,814	3,260	224	1,778
1938	4,904	3,379	232	1,757
1939	5,328	3,715	224	1,837
1940	5,850	4,203	270	1,917
1941	6,248	4,520	266	1,994
1942	6,558	4,740	276	2,094
1943	7,056	5,076	268	2,248
1944	7,410	5,338	370	2,442
1945	7,826	5,671	344	2,499
1946	9,352	7,063	368	2,657
1947	11,294	8,505	378	3,167
1949	18,540	11,617	344	7,267
1950	17,688	13,623	328	4,393
1951	17,306	14,092	0	3,214
1952	19,100	15,496	0	3,604
1953	21,352	17,592	0	3,760
1954	24,192	21,286	0	2,906

TABLE 5.12 INTEREST PAYMENTS FACTORY PRODUCTION: ESTIMATES 1923-29

	----FROM TABLE 6.47-----			INTEREST	----------INTEREST----------			RATIO
	RENT	REPAIRS & MAINT	OTHER	FROM TAB 5.11	% OTHER & RENT & REPAIRS	ESTIMATED	ESTIM'D & CALC'D	CALC'D TO ESTIM'D
1923			13,510			1,279	1,279	
1924			14,970			1,418	1,418	
1925			15,899			1,506	1,506	
1926			14,216			1,346	1,346	
1927			14,501			1,373	1,373	
1928			15,768			1,493	1,493	
1929			16,955			1,606	1,606	
1930			15,512	1,254	8.08	1,469	1,254	0.85
1931			13,214	805	6.09	1,251	805	0.64
1932			15,379	1,594	10.36	1,456	1,594	1.09
1933			11,357	1,272	11.20	1,076	1,272	1.18
1934			12,434	1,445	11.62	1,177	1,445	1.23
1935			13,330	1,592	11.94	1,262	1,592	1.26
1936			15,137	1,482	9.79	1,433	1,482	1.03
1937			14,582	1,778	12.19	1,381	1,778	1.29
1938			13,054	1,757	13.46	1,236	1,757	1.42
1939			14,210	1,837	12.93	1,346	1,837	1.37
1940			14,542	1,917	13.18	1,377	1,917	1.39
1941			15,222	1,994	13.10	1,442	1,994	1.38
1942			15,246	2,094	13.73	1,444	2,094	1.45
1943			16,783	2,248	13.39	1,589	2,248	1.41
1944			18,346	2,442	13.31	1,737	2,442	1.41
1945			19,305	2,499	12.94	1,828	2,499	1.37
1946			21,475	2,657	12.37	2,034	2,657	1.31
1947			24,671	3,167	12.84	2,336	3,167	1.36
1949			29,694	7,267	24.47	2,812	7,267	2.58
1950			33,247	4,393	13.21	3,148	4,393	1.40
1951	2,408	12,538	18,692	3,214	9.55	3,186	3,214	1.01
1952	2,670	13,534	21,422	3,604	9.58	3,563	3,604	1.01

TABLE 5:13 INTEREST PAYMENTS ON BORROWED CAPITAL
N.Z. FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS			
	INTEREST PAYMENTS			FACTORY
	ESTIM'D	CALCULATED	REPORTED	PRODUCTION
1923	1,279			1,279
1924	1,418			1,418
1925	1,506			1,506
1926	1,346			1,346
1927	1,373			1,373
1928	1,493			1,493
1929	1,606			1,606
1930		1,254		1,254
1931		805		805
1932		1,594		1,594
1933		1,272		1,272
1934		1,445		1,445
1935		1,592		1,592
1936		1,482		1,482
1937		1,778		1,778
1938		1,757		1,757
1939		1,837		1,837
1940		1,917		1,917
1941		1,994		1,994
1942		2,094		2,094
1943		2,248		2,248
1944		2,442		2,442
1945		2,499		2,499
1946		2,657		2,657
1947		3,167		3,167
1949		7,267		7,267
1950		4,393		4,393
1951		3,214		3,214
1952		3,604		3,604
1953		3,760		3,760
1954		2,906		2,906
1955			5,176	5,176
1956			6,088	6,088
1957			6,428	6,428
1958			6,754	6,754
1959			6,600	6,600
1960			7,162	7,162
1961			8,572	8,572
1962			10,714	10,714
1963			11,848	11,848
1964			12,548	12,548
1965			14,586	14,586
1966			16,569	16,569
1967			19,068	19,068
1968			21,011	21,011
1969			22,808	22,808
1970			27,481	27,481

TABLE 5:14 INTEREST PAYMENTS ON BORROWED CAPITAL
REV. FACTORY PRODUCTION, 1923-70

	FACTORY PRODUCTION	DAIRY FACTORIES FROM TAB 4.28	REV. FACTORY PRODUCTION
1923	1,279	54	1,225
1924	1,418	60	1,358
1925	1,506	62	1,444
1926	1,346	72	1,274
1927	1,373	65	1,308
1928	1,493	65	1,428
1929	1,606	65	1,541
1930	1,254	65	1,189
1931	805	64	741
1932	1,594	62	1,532
1933	1,272	60	1,212
1934	1,445	60	1,385
1935	1,592	59	1,533
1936	1,482	61	1,421
1937	1,778	59	1,719
1938	1,757	60	1,697
1939	1,837	60	1,777
1940	1,917	58	1,859
1941	1,994	59	1,935
1942	2,094	54	2,040
1943	2,248	51	2,197
1944	2,442	51	2,391
1945	2,499	53	2,446
1946	2,657	59	2,598
1947	3,167	77	3,090
1949	7,267	106	7,161
1950	4,393	120	4,273
1951	3,214	123	3,091
1952	3,604	161	3,443
1953	3,760	207	3,553
1954	2,906	194	2,712
1955	5,176	230	4,946
1956	6,088	274	5,814
1957	6,428	268	6,160
1958	6,754	244	6,510
1959	6,600	238	6,362
1960	7,162	178	6,984
1961	8,572	230	8,342
1962	10,714	256	10,458
1963	11,848	220	11,628
1964	12,548	190	12,358
1965	14,586	237	14,349
1966	16,569	389	16,180
1967	19,068	555	18,513
1968	21,011	746	20,265
1969	22,808	771	22,037
1970	27,481	853	26,628

TABLE 5:15 INTEREST ON BORROWED CAPITAL, CONSTANT DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	CONSUMER PRICE INDEX	THOUSANDS CONSTANT 1984 DOLLARS
1923	1,225	135	19,573
1924	1,358	137	21,381
1925	1,444	138	22,570
1926	1,274	139	19,770
1927	1,308	138	20,445
1928	1,428	138	22,320
1929	1,541	138	24,086
1930	1,189	135	18,998
1931	741	125	12,787
1932	1,532	115	28,735
1933	1,212	109	23,984
1934	1,385	111	26,914
1935	1,533	115	28,754
1936	1,421	119	25,757
1937	1,719	127	29,196
1938	1,697	131	27,942
1939	1,777	136	28,184
1940	1,859	142	28,238
1941	1,935	148	28,201
1942	2,040	152	28,949
1943	2,197	156	30,378
1944	2,391	159	32,436
1945	2,446	161	32,770
1946	2,598	162	34,592
1947	3,090	167	39,911
1949	7,161	184	83,947
1950	4,273	194	47,510
1951	3,091	216	30,867
1952	3,443	232	32,011
1953	3,553	243	31,538
1954	2,712	254	23,031
1955	4,946	260	41,033
1956	5,814	269	46,620
1957	6,160	275	48,317
1958	6,510	287	48,927
1959	6,362	298	46,050
1960	6,984	300	50,215
1961	8,342	306	58,803
1962	10,458	314	71,840
1963	11,628	320	78,380
1964	12,358	331	80,532
1965	14,349	343	90,236
1966	16,180	352	99,148
1967	18,513	373	107,058
1968	20,265	389	112,369
1969	22,037	409	116,220
1970	26,628	435	132,038
Dec 1984		2,157	

TABLE 5.16 INTEREST PAYMENTS, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	---THOUSANDS CONSTANT DOLLARS----					
		PR.	---INCREASE----		----DECREASE----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	19,573					
1924	21,381	19,573	1,808	9.24		
1925	22,570	21,381	1,189	5.56		
1926	19,770	22,570			-2,800	-12.41
1927	20,445	19,770	675	3.41		
1928	22,320	20,445	1,875	9.17		
1929	24,086	22,320	1,766	7.91		
1930	18,998	24,086			-5,088	-21.13
1931	12,787	18,998			-6,211	-32.69
1932	28,735	12,787	15,948	124.72		
1933	23,984	28,735			-4,751	-16.53
1934	26,914	23,984	2,930	12.22		
1935	28,754	26,914	1,840	6.84		
1936	25,757	28,754			-2,997	-10.42
1937	29,196	25,757	3,439	13.35		
1938	27,942	29,196			-1,254	-4.29
1939	28,184	27,942	242	0.87		
1940	28,238	28,184	54	0.19		
1941	28,201	28,238			-37	-0.13
1942	28,949	28,201	748	2.65		
1943	30,378	28,949	1,429	4.94		
1944	32,436	30,378	2,058	6.78		
1945	32,770	32,436	334	1.03		
1946	34,592	32,770	1,822	5.56		
1947	39,911	34,592	5,319	15.38		
1949	83,947	39,911	44,036	110.34		
1950	47,510	83,947			-36,437	-43.41
1951	30,867	47,510			-16,643	-35.03
1952	32,011	30,867	1,144	3.71		
1953	31,538	32,011			-473	-1.48
1954	23,031	31,538			-8,507	-26.97
1955	41,033	23,031	18,002	78.16		
1956	46,620	41,033	5,587	13.62		
1957	48,317	46,620	1,697	3.64		
1958	48,927	48,317	610	1.26		
1959	46,050	48,927			-2,877	-5.88
1960	50,215	46,050	4,165	9.04		
1961	58,803	50,215	8,588	17.10		
1962	71,840	58,803	13,038	22.17		
1963	78,380	71,840	6,540	9.10		
1964	80,532	78,380	2,152	2.75		
1965	90,236	80,532	9,703	12.05		
1966	99,148	90,236	8,913	9.88		
1967	107,058	99,148	7,909	7.98		
1968	112,369	107,058	5,311	4.96		
1969	116,220	112,369	3,850	3.43		
1970	132,038	116,220	15,819	13.61		

TABLE 5:17 NET OUTPUT, NOMINAL DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS			
	WAGES & SALARIES	MANUFACTURERS' SURPLUS	INTEREST PAYMENTS	NET OUTPUT
1923	24,662	5,920	1,225	31,807
1924	26,652	5,902	1,358	33,912
1925	28,754	1,850	1,444	32,048
1926	28,740	3,254	1,274	33,268
1927	28,226	2,230	1,308	31,764
1928	28,534	3,444	1,428	33,406
1929	29,622	3,036	1,541	34,199
1930	27,148	2,084	1,189	30,421
1931	21,490	1,014	741	23,245
1932	20,412	3,798	1,532	25,742
1933	20,486	7,218	1,212	28,916
1934	22,840	8,166	1,385	32,391
1935	25,720	9,364	1,533	36,617
1936	32,042	10,776	1,421	44,239
1937	37,022	11,732	1,719	50,473
1938	39,294	11,526	1,697	52,517
1939	43,454	14,886	1,777	60,117
1940	48,052	16,850	1,859	66,761
1941	53,014	19,592	1,935	74,541
1942	58,478	22,950	2,040	83,468
1943	62,658	25,014	2,197	89,869
1944	67,914	25,788	2,391	96,093
1945	75,412	25,496	2,446	103,354
1946	82,492	29,880	2,598	114,970
1947	95,764	31,746	3,090	130,600
1949	112,092	43,110	7,161	162,363
1950	128,900	36,598	4,273	169,771
1951	144,470	65,290	3,091	212,851
1952	150,672	61,218	3,443	215,333
1953	166,898	68,716	3,553	239,167
1954	190,396	78,044	2,712	271,152
1955	209,016	72,416	4,946	286,378
1956	214,580	71,602	5,814	291,996
1957	232,266	80,158	6,160	318,584
1958	248,660	83,612	6,510	338,782
1959	264,088	113,636	6,362	384,086
1960	292,408	113,858	6,984	413,250
1961	314,256	137,986	8,342	460,584
1962	330,484	144,858	10,458	485,800
1963	359,934	184,296	11,628	555,858
1964	402,534	192,916	12,358	607,808
1965	445,041	232,686	14,349	692,076
1966	481,560	227,427	16,180	725,167
1967	484,484	238,981	18,513	741,978
1968	516,327	263,317	20,265	799,909
1969	596,703	297,277	22,037	916,017
1970	720,864	312,043	26,628	1,059,535

TABLE 5:18 NET OUTPUT, CONSTANT DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	CONSUMER PRICE INDEX	THOUSANDS CONSTANT 1984 DOLLARS
1923	31,807	135	508,205
1924	33,912	137	533,928
1925	32,048	138	500,924
1926	33,268	139	516,252
1927	31,764	138	496,485
1928	33,406	138	522,150
1929	34,199	138	534,545
1930	30,421	135	486,060
1931	23,245	125	401,116
1932	25,742	115	482,830
1933	28,916	109	572,218
1934	32,391	111	629,436
1935	36,617	115	686,808
1936	44,239	119	801,878
1937	50,473	127	857,246
1938	52,517	131	864,726
1939	60,117	136	953,473
1940	66,761	142	1,014,109
1941	74,541	148	1,086,385
1942	83,468	152	1,184,477
1943	89,869	156	1,242,612
1944	96,093	159	1,303,601
1945	103,354	161	1,384,687
1946	114,970	162	1,530,804
1947	130,600	167	1,686,851
1949	162,363	184	1,903,353
1950	169,771	194	1,887,608
1951	212,851	216	2,125,554
1952	215,333	232	2,002,040
1953	239,167	243	2,122,976
1954	271,152	254	2,302,657
1955	286,378	260	2,375,836
1956	291,996	269	2,341,395
1957	318,584	275	2,498,857
1958	338,782	287	2,546,177
1959	384,086	298	2,780,112
1960	413,250	300	2,971,268
1961	460,584	306	3,246,666
1962	485,800	314	3,337,168
1963	555,858	320	3,746,830
1964	607,808	331	3,960,852
1965	692,076	343	4,352,210
1966	725,167	352	4,443,708
1967	741,978	373	4,290,741
1968	799,909	389	4,435,485
1969	916,017	409	4,830,926
1970	1,059,535	435	5,253,832
Dec 1984		2,157	

TABLE 5:19 NET OUTPUT, CHANGE & PERCENTAGE CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	508,205					
1924	533,928	508,205	25,723	5.06		
1925	500,924	533,928			-33,004	-6.18
1926	516,252	500,924	15,328	3.06		
1927	496,485	516,252			-19,767	-3.83
1928	522,150	496,485	25,665	5.17		
1929	534,545	522,150	12,395	2.37		
1930	486,060	534,545			-48,485	-9.07
1931	401,116	486,060			-84,944	-17.48
1932	482,830	401,116	81,714	20.37		
1933	572,218	482,830	89,388	18.51		
1934	629,436	572,218	57,218	10.00		
1935	686,808	629,436	57,372	9.11		
1936	801,878	686,808	115,070	16.75		
1937	857,246	801,878	55,368	6.90		
1938	864,726	857,246	7,480	0.87		
1939	953,473	864,726	88,747	10.26		
1940	1,014,109	953,473	60,636	6.36		
1941	1,086,385	1,014,109	72,276	7.13		
1942	1,184,477	1,086,385	98,092	9.03		
1943	1,242,612	1,184,477	58,135	4.91		
1944	1,303,601	1,242,612	60,989	4.91		
1945	1,384,687	1,303,601	81,086	6.22		
1946	1,530,804	1,384,687	146,117	10.55		
1947	1,686,851	1,530,804	156,047	10.19		
1949	1,903,353	1,686,851	216,502	12.83		
1950	1,887,608	1,903,353			-15,745	-0.83
1951	2,125,554	1,887,608	237,946	12.61		
1952	2,002,040	2,125,554			-123,514	-5.81
1953	2,122,976	2,002,040	120,936	6.04		
1954	2,302,657	2,122,976	179,681	8.46		
1955	2,375,836	2,302,657	73,179	3.18		
1956	2,341,395	2,375,836			-34,441	-1.45
1957	2,498,857	2,341,395	157,462	6.73		
1958	2,546,177	2,498,857	47,320	1.89		
1959	2,780,112	2,546,177	233,936	9.19		
1960	2,971,268	2,780,112	191,155	6.88		
1961	3,246,666	2,971,268	275,398	9.27		
1962	3,337,168	3,246,666	90,502	2.79		
1963	3,746,830	3,337,168	409,663	12.28		
1964	3,960,852	3,746,830	214,021	5.71		
1965	4,352,210	3,960,852	391,358	9.88		
1966	4,443,708	4,352,210	91,498	2.10		
1967	4,290,741	4,443,708			-152,967	-3.44
1968	4,435,485	4,290,741	144,744	3.37		
1969	4,830,926	4,435,485	395,441	8.92		
1970	5,253,832	4,830,926	422,906	8.75		

TABLE 5:20 INTEREST AS PERCENT OF TOTAL ANNUAL EXPENSES
REVISED FACTORY PRODUCTION, 1923-70

	ANNUAL EXPENDITURE FROM TAB 5.30	INTEREST PAYMENTS	INTEREST AS PERCENT ANNUAL EXPENDITURE
1923	147,442	1,225	0.83
1924	164,446	1,358	0.83
1925	169,738	1,444	0.85
1926	163,132	1,274	0.78
1927	175,620	1,308	0.74
1928	177,208	1,428	0.81
1929	180,240	1,541	0.85
1930	163,780	1,189	0.73
1931	141,196	741	0.52
1932	142,252	1,532	1.08
1933	146,016	1,212	0.83
1934	160,190	1,385	0.86
1935	171,204	1,533	0.90
1936	196,378	1,421	0.72
1937	211,980	1,719	0.81
1938	217,606	1,697	0.78
1939	241,580	1,777	0.74
1940	270,492	1,859	0.69
1941	290,138	1,935	0.67
1942	313,222	2,040	0.65
1943	334,536	2,197	0.66
1944	358,614	2,391	0.67
1945	383,638	2,446	0.64
1946	423,700	2,598	0.61
1947	511,570	3,090	0.60
1949	614,674	7,161	1.17
1950	747,498	4,273	0.57
1951	821,808	3,091	0.38
1952	890,388	3,443	0.39
1953	972,452	3,553	0.37
1954	1,104,222	2,712	0.25
1955	1,230,954	4,946	0.40
1956	1,281,870	5,814	0.45
1957	1,370,628	6,160	0.45
1958	1,442,908	6,510	0.45
1959	1,523,492	6,362	0.42
1960	1,691,198	6,984	0.41
1961	1,826,890	8,342	0.46
1962	1,957,438	10,458	0.53
1963	2,181,330	11,628	0.53
1964	2,473,094	12,358	0.50
1965	2,707,973	14,349	0.53
1966	2,898,646	16,180	0.56
1967	2,998,196	18,513	0.62
1968	3,269,305	20,265	0.62
1969	3,781,863	22,037	0.58
1970	4,283,454	26,628	0.62

TABLE 5:21 DISTRIBUTION OF NEW ADDED-VALUE
REVISED FACTORY PRODUCTION, 1923-70

	-THOUSANDS OF NOMINAL DOLLARS-			-INCOME SHARES--	
	NEW ADDED VALUE	WAGES & SALARIES	MANUFRS' SURPLUS	% TO WAGES	% TO PROFITS
1923	30,582	24,662	5,920	80.64	19.36
1924	32,554	26,652	5,902	81.87	18.13
1925	30,604	28,754	1,850	93.96	6.04
1926	31,994	28,740	3,254	89.83	10.17
1927	30,456	28,226	2,230	92.68	7.32
1928	31,978	28,534	3,444	89.23	10.77
1929	32,658	29,622	3,036	90.70	9.30
1930	29,232	27,148	2,084	92.87	7.13
1931	22,504	21,490	1,014	95.49	4.51
1932	24,210	20,412	3,798	84.31	15.69
1933	27,704	20,486	7,218	73.95	26.05
1934	31,006	22,840	8,166	73.66	26.34
1935	35,084	25,720	9,364	73.31	26.69
1936	42,818	32,042	10,776	74.83	25.17
1937	48,754	37,022	11,732	75.94	24.06
1938	50,820	39,294	11,526	77.32	22.68
1939	58,340	43,454	14,886	74.48	25.52
1940	64,902	48,052	16,850	74.04	25.96
1941	72,606	53,014	19,592	73.02	26.98
1942	81,428	58,478	22,950	71.82	28.18
1943	87,672	62,658	25,014	71.47	28.53
1944	93,702	67,914	25,788	72.48	27.52
1945	100,908	75,412	25,496	74.73	25.27
1946	112,372	82,492	29,880	73.41	26.59
1947	127,510	95,764	31,746	75.10	24.90
1949	155,202	112,092	43,110	72.22	27.78
1950	165,498	128,900	36,598	77.89	22.11
1951	209,760	144,470	65,290	68.87	31.13
1952	211,890	150,672	61,218	71.11	28.89
1953	235,614	166,898	68,716	70.84	29.16
1954	268,440	190,396	78,044	70.93	29.07
1955	281,432	209,016	72,416	74.27	25.73
1956	286,182	214,580	71,602	74.98	25.02
1957	312,424	232,266	80,158	74.34	25.66
1958	332,272	248,660	83,612	74.84	25.16
1959	377,724	264,088	113,636	69.92	30.08
1960	406,266	292,408	113,858	71.97	28.03
1961	452,242	314,256	137,986	69.49	30.51
1962	475,342	330,484	144,858	69.53	30.47
1963	544,230	359,934	184,296	66.14	33.86
1964	595,450	402,534	192,916	67.60	32.40
1965	677,727	445,041	232,686	65.67	34.33
1966	708,987	481,560	227,427	67.92	32.08
1967	723,465	484,484	238,981	66.97	33.03
1968	779,644	516,327	263,317	66.23	33.77
1969	893,980	596,703	297,277	66.75	33.25
1970	1,032,907	720,864	312,043	69.79	30.21

TABLE 5:22 AVERAGE GROSS INCOME, PERSON ENGAGED/ESTABLISHMENT
REVISED FACTORY PRODUCTION, 1923-70

	--NOMINAL $(000)---		-----NUMBER OF-----		-GROSS INCOME PER-	
	WAGES & SALARIES	MANUFRS' SURPLUS	PERSONS ENGAGED	ESTABS.	PERSON ENGAGED	ESTABMT.
1923	24,662	5,920	67,040	3,884	368	1,524
1924	26,652	5,902	69,445	3,954	384	1,493
1925	28,754	1,850	70,521	4,186	408	442
1926	28,740	3,254	70,225	4,412	409	738
1927	28,226	2,230	70,384	4,505	401	495
1928	28,534	3,444	72,280	4,494	395	766
1929	29,622	3,036	74,119	4,534	400	670
1930	27,148	2,084	69,485	4,565	391	457
1931	21,490	1,014	60,345	4,343	356	233
1932	20,412	3,798	60,355	4,370	338	869
1933	20,486	7,218	63,805	4,402	321	1,640
1934	22,840	8,166	70,883	4,640	322	1,760
1935	25,720	9,364	77,464	4,923	332	1,902
1936	32,042	10,776	86,963	5,115	368	2,107
1937	37,022	11,732	92,869	5,342	399	2,196
1938	39,294	11,526	92,910	5,573	423	2,068
1939	43,454	14,886	98,983	5,775	439	2,578
1940	48,052	16,850	104,060	5,837	462	2,887
1941	53,014	19,592	107,094	5,799	495	3,379
1942	58,478	22,950	105,244	5,577	556	4,115
1943	62,658	25,014	108,531	5,653	577	4,425
1944	67,914	25,788	112,800	5,938	602	4,343
1945	75,412	25,496	118,212	6,453	638	3,951
1946	82,492	29,880	124,178	7,109	664	4,203
1947	95,764	31,746	130,070	7,440	736	4,267
1949	112,092	43,110	133,595	7,508	839	5,742
1950	128,900	36,598	137,895	7,803	935	4,690
1951	144,470	65,290	139,850	8,118	1,033	8,043
1952	150,672	61,218	138,513	8,093	1,088	7,564
1953	166,898	68,716	141,899	7,971	1,176	8,621
1954	190,396	78,044	149,002	7,966	1,278	9,797
1955	209,016	72,416	153,658	8,124	1,360	8,914
1956	214,580	71,602	152,072	8,113	1,411	8,826
1957	232,266	80,158	158,168	8,148	1,468	9,838
1958	248,660	83,612	164,156	8,205	1,515	10,190
1959	264,088	113,636	167,349	8,186	1,578	13,882
1960	292,408	113,858	176,790	8,400	1,654	13,555
1961	314,256	137,986	183,094	8,660	1,716	15,934
1962	330,484	144,858	186,960	8,723	1,768	16,606
1963	359,934	184,296	194,962	9,073	1,846	20,313
1964	402,534	192,916	206,640	9,475	1,948	20,361
1965	445,041	232,686	218,517	9,692	2,037	24,008
1966	481,560	227,427	224,638	10,153	2,144	22,400
1967	484,484	238,981	221,026	10,166	2,192	23,508
1968	516,327	263,317	224,544	10,275	2,299	25,627
1969	596,703	297,277	236,809	10,360	2,520	28,695
1970	720,864	312,043	246,756	10,382	2,921	30,056

TABLE 5:23 AVERAGE GROSS INCOMES, CONSTANT DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	-NOMINAL DOLLARS--		C.	-CONSTANT DOLLARS--	
	PERSON ENGAGED	ESTABMT.	P. I.	PERSON ENGAGED.	ESTABMNT
1923	368	1,524	135	5,878	24,350
1924	384	1,493	137	6,043	23,507
1925	408	442	138	6,377	6,909
1926	409	738	139	6,347	11,452
1927	401	495	138	6,268	7,737
1928	395	766	138	6,174	11,973
1929	400	670	138	6,252	10,472
1930	391	457	135	6,247	7,302
1931	356	233	125	6,143	4,021
1932	338	869	115	6,341	16,299
1933	321	1,640	109	6,360	32,454
1934	322	1,760	111	6,257	34,201
1935	332	1,902	115	6,227	35,675
1936	368	2,107	119	6,679	38,192
1937	399	2,196	127	6,771	37,297
1938	423	2,068	131	6,964	34,051
1939	439	2,578	136	6,963	40,888
1940	462	2,887	142	7,014	43,854
1941	495	3,379	148	7,215	49,247
1942	556	4,115	152	7,885	58,395
1943	577	4,425	156	7,982	61,184
1944	602	4,343	159	8,168	58,917
1945	638	3,951	161	8,548	52,934
1946	664	4,203	162	8,841	55,962
1947	736	4,267	167	9,510	55,113
1949	839	5,742	184	9,835	67,312
1950	935	4,690	194	10,396	52,146
1951	1,033	8,043	216	10,316	80,315
1952	1,088	7,564	232	10,112	70,329
1953	1,176	8,621	243	10,443	76,522
1954	1,278	9,797	254	10,851	83,199
1955	1,360	8,914	260	11,285	73,951
1956	1,411	8,826	269	11,315	70,769
1957	1,468	9,838	275	11,518	77,164
1958	1,515	10,190	287	11,383	76,588
1959	1,578	13,882	298	11,422	100,480
1960	1,654	13,555	300	11,892	97,457
1961	1,716	15,934	306	12,099	112,317
1962	1,768	16,606	314	12,145	114,077
1963	1,846	20,313	320	12,443	136,919
1964	1,948	20,361	331	12,694	132,682
1965	2,037	24,008	343	12,810	150,978
1966	2,144	22,400	352	13,138	137,264
1967	2,192	23,508	373	12,676	135,942
1968	2,299	25,627	389	12,748	142,101
1969	2,520	28,695	409	13,290	151,331
1970	2,921	30,056	435	14,484	149,037

TABLE 5:24 INDEX GROSS AVERAGE INCOMES, 1936 = 100
REVISED FACTORY PRODUCTION, 1923-70

	-CONSTANT DOLLARS-		--INDEX OF ANNUAL AVERAGE--	
	PERSON ENGAGED	ESTABMNT	-----GROSS INCOMES PER----- PERSON ENG.	ESTABLISHMENT
1923	5,878	24,350	88	64
1924	6,043	23,507	90	62
1925	6,377	6,909	95	18
1926	6,347	11,452	95	30
1927	6,268	7,737	94	20
1928	6,174	11,973	92	31
1929	6,252	10,472	94	27
1930	6,247	7,302	94	19
1931	6,143	4,021	92	11
1932	6,341	16,299	95	43
1933	6,360	32,454	95	85
1934	6,257	34,201	94	90
1935	6,227	35,675	93	93
1936	6,679	38,192	100	100
1937	6,771	37,297	101	98
1938	6,964	34,051	104	89
1939	6,963	40,888	104	107
1940	7,014	43,854	105	115
1941	7,215	49,247	108	129
1942	7,885	58,395	118	153
1943	7,982	61,184	120	160
1944	8,168	58,917	122	154
1945	8,548	52,934	128	139
1946	8,841	55,962	132	147
1947	9,510	55,113	142	144
1949	9,835	67,312	147	176
1950	10,396	52,146	156	137
1951	10,316	80,315	154	210
1952	10,112	70,329	151	184
1953	10,443	76,522	156	200
1954	10,851	83,199	162	218
1955	11,285	73,951	169	194
1956	11,315	70,769	169	185
1957	11,518	77,164	172	202
1958	11,383	76,588	170	201
1959	11,422	100,480	171	263
1960	11,892	97,457	178	255
1961	12,099	112,317	181	294
1962	12,145	114,077	182	299
1963	12,443	136,919	186	359
1964	12,694	132,682	190	347
1965	12,810	150,978	192	395
1966	13,138	137,264	197	359
1967	12,676	135,942	190	356
1968	12,748	142,101	191	372
1969	13,290	151,331	199	396
1970	14,484	149,037	217	390

TABLE 5:25 NET OUTPUT, DISTRIBUTION OF INCOMES
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS-			---PERCENT OF TOTAL TO---		
	WAGES & SALARIES	MANUFRS' SURPLUS	INTEREST PAYMENTS	WAGES	-----PROFITS----- ESTS.	INTEREST
1923	24,662	5,920	1,225	77.54	18.61	3.85
1924	26,652	5,902	1,358	78.59	17.40	4.00
1925	28,754	1,850	1,444	89.72	5.77	4.51
1926	28,740	3,254	1,274	86.39	9.78	3.83
1927	28,226	2,230	1,308	88.86	7.02	4.12
1928	28,534	3,444	1,428	85.42	10.31	4.27
1929	29,622	3,036	1,541	86.62	8.88	4.51
1930	27,148	2,084	1,189	89.24	6.85	3.91
1931	21,490	1,014	741	92.45	4.36	3.19
1932	20,412	3,798	1,532	79.29	14.75	5.95
1933	20,486	7,218	1,212	70.85	24.96	4.19
1934	22,840	8,166	1,385	70.51	25.21	4.28
1935	25,720	9,364	1,533	70.24	25.57	4.19
1936	32,042	10,776	1,421	72.43	24.36	3.21
1937	37,022	11,732	1,719	73.35	23.24	3.41
1938	39,294	11,526	1,697	74.82	21.95	3.23
1939	43,454	14,886	1,777	72.28	24.76	2.96
1940	48,052	16,850	1,859	71.98	25.24	2.78
1941	53,014	19,592	1,935	71.12	26.28	2.60
1942	58,478	22,950	2,040	70.06	27.50	2.44
1943	62,658	25,014	2,197	69.72	27.83	2.44
1944	67,914	25,788	2,391	70.68	26.84	2.49
1945	75,412	25,496	2,446	72.96	24.67	2.37
1946	82,492	29,880	2,598	71.75	25.99	2.26
1947	95,764	31,746	3,090	73.33	24.31	2.37
1949	112,092	43,110	7,161	69.04	26.55	4.41
1950	128,900	36,598	4,273	75.93	21.56	2.52
1951	144,470	65,290	3,091	67.87	30.67	1.45
1952	150,672	61,218	3,443	69.97	28.43	1.60
1953	166,898	68,716	3,553	69.78	28.73	1.49
1954	190,396	78,044	2,712	70.22	28.78	1.00
1955	209,016	72,416	4,946	72.99	25.29	1.73
1956	214,580	71,602	5,814	73.49	24.52	1.99
1957	232,266	80,158	6,160	72.91	25.16	1.93
1958	248,660	83,612	6,510	73.40	24.68	1.92
1959	264,088	113,636	6,362	68.76	29.59	1.66
1960	292,408	113,858	6,984	70.76	27.55	1.69
1961	314,256	137,986	8,342	68.23	29.96	1.81
1962	330,484	144,858	10,458	68.03	29.82	2.15
1963	359,934	184,296	11,628	64.75	33.16	2.09
1964	402,534	192,916	12,358	66.23	31.74	2.03
1965	445,041	232,686	14,349	64.31	33.62	2.07
1966	481,560	227,427	16,180	66.41	31.36	2.23
1967	484,484	238,981	18,513	65.30	32.21	2.50
1968	516,327	263,317	20,265	64.55	32.92	2.53
1969	596,703	297,277	22,037	65.14	32.45	2.41
1970	720,864	312,043	26,628	68.04	29.45	2.51

TABLE 5.26 RATIO INCOME/NET OUTPUT PER PERSON ENGAGED
REVISED FACTORY PRODUCTION, 1923-70

	NET OUTPUT FROM TABLE 5.18	TOTAL PERSONS ENGAGED	NET OUTPUT PER PERSON ENGAGED	GROSS INCOME PER PERSON ENGAGED	GROSS INCOME PERCENT OF NET OUTPUT
1923	508,205	67,040	7,581	5,878	77.54
1924	533,928	69,445	7,689	6,043	78.59
1925	500,924	70,521	7,103	6,418	90.35
1926	516,252	70,225	7,351	6,355	86.44
1927	496,485	70,384	7,054	6,254	88.65
1928	522,150	72,280	7,224	6,874	95.15
1929	534,545	74,119	7,212	6,225	86.31
1930	486,060	69,485	6,995	6,265	89.56
1931	401,116	60,345	6,647	6,160	92.68
1932	482,830	60,355	8,000	6,341	79.26
1933	572,218	63,805	8,968	6,360	70.91
1934	629,436	70,883	8,880	6,257	70.46
1935	686,808	77,464	8,866	6,206	69.99
1936	801,878	86,963	9,221	6,679	72.43
1937	857,246	92,869	9,231	6,771	73.35
1938	864,726	92,910	9,307	6,964	74.82
1939	953,473	98,983	9,633	6,963	72.28
1940	1,014,109	104,060	9,745	7,014	71.98
1941	1,086,385	107,094	10,144	7,215	71.12
1942	1,184,477	105,244	11,255	7,885	70.06
1943	1,242,612	108,531	11,449	7,982	69.72
1944	1,303,601	112,800	11,557	8,168	70.67
1945	1,384,687	118,212	11,714	8,565	73.12
1946	1,530,804	124,178	12,327	8,832	71.64
1947	1,686,851	130,070	12,969	9,510	73.33
1949	1,903,353	133,595	14,247	9,843	69.09
1950	1,887,608	137,895	13,689	10,437	76.24
1951	2,125,554	139,850	15,199	10,316	67.87
1952	2,002,040	138,513	14,454	10,112	69.96
1953	2,122,976	141,899	14,961	10,443	69.80
1954	2,302,657	149,002	15,454	10,851	70.21
1955	2,375,836	153,658	15,462	11,285	72.99
1956	2,341,395	152,072	15,397	11,315	73.49
1957	2,498,857	158,168	15,799	11,518	72.91
1958	2,546,177	164,156	15,511	11,383	73.38
1959	2,780,112	167,349	16,613	11,413	68.70
1960	2,971,268	176,790	16,807	11,954	71.12
1961	3,246,666	183,094	17,732	12,099	68.23
1962	3,337,168	186,960	17,850	12,143	68.03
1963	3,746,830	194,962	19,218	12,444	64.75
1964	3,960,852	206,640	19,168	12,694	66.23
1965	4,352,210	218,517	19,917	12,808	64.31
1966	4,443,708	224,638	19,782	13,136	66.41
1967	4,290,741	221,026	19,413	12,676	65.30
1968	4,435,485	224,544	19,753	12,750	64.55
1969	4,830,926	236,809	20,400	13,289	65.14
1970	5,253,832	246,756	21,292	14,486	68.04

TABLE 5:27 INDEX OUTPUT/INCOME PER PERSON ENGAGED
REVISED FACTORY PRODUCTION, 1923-70 1926 = 100

	NET OUTPUT PER PERSON ENGAGED	GROSS INCOME PER PERSON ENGAGED	----INDEX OF----- OUTPUT -PER PERSON	INCOME ENG.-
1923	7,581	5,878	103	92
1924	7,689	6,043	105	95
1925	7,103	6,418	97	101
1926	7,351	6,355	100	100
1927	7,054	6,254	96	98
1928	7,224	6,874	98	108
1929	7,212	6,225	98	98
1930	6,995	6,265	95	99
1931	6,647	6,160	90	97
1932	8,000	6,341	109	100
1933	8,968	6,360	122	100
1934	8,880	6,257	121	98
1935	8,866	6,206	121	98
1936	9,221	6,679	125	105
1937	9,231	6,771	126	107
1938	9,307	6,964	127	110
1939	9,633	6,963	131	110
1940	9,745	7,014	133	110
1941	10,144	7,215	138	114
1942	11,255	7,885	153	124
1943	11,449	7,982	156	126
1944	11,557	8,168	157	129
1945	11,714	8,565	159	135
1946	12,327	8,832	168	139
1947	12,969	9,510	176	150
1949	14,247	9,843	194	155
1950	13,689	10,437	186	164
1951	15,199	10,316	207	162
1952	14,454	10,112	197	159
1953	14,961	10,443	204	164
1954	15,454	10,851	210	171
1955	15,462	11,285	210	178
1956	15,397	11,315	209	178
1957	15,799	11,518	215	181
1958	15,511	11,383	211	179
1959	16,613	11,413	226	180
1960	16,807	11,954	229	188
1961	17,732	12,099	241	190
1962	17,850	12,143	243	191
1963	19,218	12,444	261	196
1964	19,168	12,694	261	200
1965	19,917	12,808	271	202
1966	19,782	13,136	269	207
1967	19,413	12,676	264	199
1968	19,753	12,750	269	201
1969	20,400	13,289	278	209
1970	21,292	14,486	290	228

TABLE 5:28 TOTAL ANNUAL INVESTMENT, CONSTANT DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS OF CONSTANT DOLLARS				
	FIXED ASSETS	RAW MATERIALS	OTHER PROD EXPENSES 1	WAGES & SALARIES	TOTAL INVESTED
1923	992,969	985,994	202,794	394,044	2,575,801
1924	1,066,751	1,168,139	219,879	419,623	2,874,392
1925	1,148,660	1,149,392	241,744	449,438	2,989,234
1926	1,230,474	1,089,090	258,661	445,987	3,024,212
1927	1,347,334	1,355,911	277,705	441,185	3,422,135
1928	1,408,379	1,325,091	316,774	445,999	3,496,243
1929	1,472,981	1,313,189	338,148	463,005	3,587,324
1930	1,462,307	1,153,579	302,574	433,765	3,352,225
1931	1,413,996	987,145	282,778	370,831	3,054,751
1932	1,417,125	1,038,423	300,082	382,858	3,138,488
1933	1,303,951	1,152,049	275,292	405,397	3,136,691
1934	1,337,113	1,344,879	298,210	443,837	3,424,039
1935	1,374,486	1,399,591	312,866	482,418	3,569,360
1936	1,426,708	1,692,136	353,990	580,795	4,053,629
1937	1,401,757	1,677,551	331,100	628,791	4,039,198
1938	1,478,499	1,650,361	306,038	647,001	4,081,899
1939	1,550,150	1,824,928	331,153	689,193	4,395,424
1940	1,360,705	1,955,098	322,218	729,917	4,367,937
1941	1,261,475	1,929,748	317,701	772,643	4,281,568
1942	1,180,775	1,974,124	309,375	829,849	4,294,124
1943	1,107,277	1,998,561	316,577	866,367	4,288,782
1944	1,145,281	2,083,296	326,962	921,324	4,476,863
1945	1,195,075	2,168,408	343,370	1,010,333	4,717,187
1946	1,292,908	2,426,422	375,461	1,098,366	5,193,157
1947	1,421,260	2,993,109	427,455	1,236,904	6,078,728
1949	1,553,127	3,267,324	476,624	1,314,035	6,611,109
1950	1,652,221	3,842,629	518,863	1,433,182	7,446,895
1951	1,580,204	3,600,468	476,672	1,442,693	7,100,038
1952	1,542,239	3,524,774	471,201	1,400,860	6,939,075
1953	1,793,905	3,813,249	545,334	1,481,477	7,633,965
1954	2,148,954	4,325,619	655,518	1,616,867	8,746,958
1955	2,622,390	4,508,011	778,156	1,734,029	9,642,586
1956	2,710,143	4,487,377	792,945	1,720,628	9,711,094
1957	2,779,590	4,724,155	865,869	1,821,810	10,191,425
1958	2,940,262	4,705,857	903,280	1,868,849	10,418,248
1959	3,118,569	4,818,562	919,248	1,911,536	10,767,916
1960	3,570,707	5,297,619	1,004,107	2,102,414	11,974,847
1961	4,028,148	5,565,440	1,109,987	2,215,197	12,918,771
1962	4,582,215	5,772,596	1,229,217	2,270,236	13,854,264
1963	4,787,480	6,591,966	1,312,287	2,426,180	15,117,913
1964	5,315,878	7,348,202	1,423,982	2,623,160	16,711,221
1965	5,917,945	7,565,731	1,575,233	2,798,698	17,857,607
1966	6,468,146	7,665,465	1,713,363	2,950,923	18,797,896
1967	6,496,433	7,772,922	1,755,611	2,801,694	18,826,660
1968	6,107,254	8,196,566	1,784,714	2,863,027	18,951,561
1969	6,822,484	9,009,369	1,930,795	3,146,915	20,909,564
1970	7,030,895	9,532,646	2,146,296	3,574,491	22,284,328

TABLE 5:29 DISTRIBUTION OF ANNUAL EXPENDITURE, CONSTANT DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	TOTAL INVESTED	----PERCENTAGE OF TOTAL EXPENDITURE----- FIXED ASSETS	RAW MATERIALS	OTHER PROD EXPENSES 1	WAGES & SALARIES
1923	2,575,800	38.55	38.28	7.87	15.30
1924	2,874,392	37.11	40.64	7.65	14.60
1925	2,989,234	38.43	38.45	8.09	15.04
1926	3,024,212	40.69	36.01	8.55	14.75
1927	3,422,135	39.37	39.62	8.11	12.89
1928	3,496,243	40.28	37.90	9.06	12.76
1929	3,587,324	41.06	36.61	9.43	12.91
1930	3,352,225	43.62	34.41	9.03	12.94
1931	3,054,751	46.29	32.32	9.26	12.14
1932	3,138,488	45.15	33.09	9.56	12.20
1933	3,136,691	41.57	36.73	8.78	12.92
1934	3,424,039	39.05	39.28	8.71	12.96
1935	3,569,360	38.51	39.21	8.77	13.52
1936	4,053,629	35.20	41.74	8.73	14.33
1937	4,039,198	34.70	41.53	8.20	15.57
1938	4,081,899	36.22	40.43	7.50	15.85
1939	4,395,424	35.27	41.52	7.53	15.68
1940	4,367,937	31.15	44.76	7.38	16.71
1941	4,281,568	29.46	45.07	7.42	18.05
1942	4,294,124	27.50	45.97	7.20	19.33
1943	4,288,782	25.82	46.60	7.38	20.20
1944	4,476,863	25.58	46.53	7.30	20.58
1945	4,717,187	25.33	45.97	7.28	21.42
1946	5,193,157	24.90	46.72	7.23	21.15
1947	6,078,728	23.38	49.24	7.03	20.35
1949	6,611,109	23.49	49.42	7.21	19.88
1950	7,446,895	22.19	51.60	6.97	19.25
1951	7,100,038	22.26	50.71	6.71	20.32
1952	6,939,075	22.23	50.80	6.79	20.19
1953	7,633,965	23.50	49.95	7.14	19.41
1954	8,746,958	24.57	49.45	7.49	18.48
1955	9,642,586	27.20	46.75	8.07	17.98
1956	9,711,094	27.91	46.21	8.17	17.72
1957	10,191,425	27.27	46.35	8.50	17.88
1958	10,418,248	28.22	45.17	8.67	17.94
1959	10,767,916	28.96	44.75	8.54	17.75
1960	11,974,847	29.82	44.24	8.39	17.56
1961	12,918,771	31.18	43.08	8.59	17.15
1962	13,854,264	33.07	41.67	8.87	16.39
1963	15,117,913	31.67	43.60	8.68	16.05
1964	16,711,221	31.81	43.97	8.52	15.70
1965	17,857,607	33.14	42.37	8.82	15.67
1966	18,797,896	34.41	40.78	9.11	15.70
1967	18,826,660	34.51	41.29	9.33	14.88
1968	18,951,561	32.23	43.25	9.42	15.11
1969	20,909,564	32.63	43.09	9.23	15.05
1970	22,284,328	31.55	42.78	9.63	16.04

TABLE 5:30 TOTAL ANNUAL INVESTMENT, NOMINAL DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS				
	FIXED ASSETS	RAW MATERIALS	OTHER PROD EXPENSES 1	WAGES & SALARIES	TOTAL INVESTED
1923	52,916	57,946	11,918	24,662	147,442
1924	56,020	68,820	12,954	26,652	164,446
1925	59,430	67,382	14,172	28,754	169,738
1926	59,684	60,370	14,338	28,740	163,132
1927	61,344	71,422	14,628	28,226	175,620
1928	62,666	69,414	16,594	28,534	177,208
1929	64,874	68,186	17,558	29,622	180,240
1930	63,048	58,294	15,290	27,148	163,780
1931	59,654	46,680	13,372	21,490	141,196
1932	59,786	48,142	13,912	20,412	142,252
1933	58,034	54,478	13,018	20,486	146,016
1934	58,890	64,220	14,240	22,840	160,190
1935	60,536	69,428	15,520	25,720	171,204
1936	62,836	83,940	17,560	32,042	196,378
1937	66,936	90,216	17,806	37,022	211,980
1938	71,286	90,284	16,742	39,294	217,606
1939	76,178	103,218	18,730	43,454	241,580
1940	78,854	123,270	20,316	48,052	270,492
1941	81,876	133,302	21,946	53,014	290,138
1942	84,302	147,350	23,092	58,478	313,222
1943	87,268	159,366	25,244	62,658	334,536
1944	92,918	170,952	26,830	67,914	358,614
1945	98,620	180,952	28,654	75,412	383,638
1946	106,094	203,608	31,506	82,492	423,700
1947	119,262	259,486	37,058	95,764	511,570
1949	143,288	313,554	45,740	112,092	614,674
1950	161,622	402,612	54,364	128,900	747,498
1951	180,218	439,000	58,120	144,470	821,808
1952	198,768	477,160	63,788	150,672	890,388
1953	219,560	512,676	73,318	166,898	972,452
1954	251,060	575,546	87,220	190,396	1,104,222
1955	311,234	606,084	104,620	209,016	1,230,954
1956	330,444	626,194	110,652	214,580	1,281,870
1957	347,932	667,996	122,434	232,266	1,370,628
1958	380,312	682,862	131,074	248,660	1,442,908
1959	413,496	710,386	135,522	264,088	1,523,492
1960	466,824	783,468	148,498	292,408	1,691,198
1961	528,496	820,496	163,642	314,256	1,826,890
1962	601,190	845,684	180,080	330,484	1,957,438
1963	641,438	984,058	195,900	359,934	2,181,330
1964	712,234	1,137,830	220,496	402,534	2,473,094
1965	809,362	1,203,081	250,489	445,041	2,707,973
1966	899,603	1,240,263	277,220	481,560	2,898,646
1967	936,667	1,286,478	290,567	484,484	2,998,196
1968	985,315	1,451,594	316,069	516,327	3,269,305
1969	1,151,314	1,674,899	358,947	596,703	3,781,863
1970	1,261,454	1,878,245	422,891	720,864	4,283,454

TABLE 5:31 DISTRIBUTION OF ANNUAL EXPENDITURE, NOMINAL DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

		----PERCENTAGE OF TOTAL EXPENDITURE----			
	TOTAL INVESTED	FIXED ASSETS	RAW MATERIALS	OTHER PROD EXPENSES 1	WAGES & SALARIES
1923	147,442	35.89	39.30	8.08	16.73
1924	164,446	34.07	41.85	7.88	16.21
1925	169,738	35.01	39.70	8.35	16.94
1926	163,132	36.59	37.01	8.79	17.62
1927	175,620	34.93	40.67	8.33	16.07
1928	177,208	35.36	39.17	9.36	16.10
1929	180,240	35.99	37.83	9.74	16.43
1930	163,780	38.50	35.59	9.34	16.58
1931	141,196	42.25	33.06	9.47	15.22
1932	142,252	42.03	33.84	9.78	14.35
1933	146,016	39.74	37.31	8.92	14.03
1934	160,190	36.76	40.09	8.89	14.26
1935	171,204	35.36	40.55	9.07	15.02
1936	196,378	32.00	42.74	8.94	16.32
1937	211,980	31.58	42.56	8.40	17.46
1938	217,606	32.76	41.49	7.69	18.06
1939	241,580	31.53	42.73	7.75	17.99
1940	270,492	29.15	45.57	7.51	17.76
1941	290,138	28.22	45.94	7.56	18.27
1942	313,222	26.91	47.04	7.37	18.67
1943	334,536	26.09	47.64	7.55	18.73
1944	358,614	25.91	47.67	7.48	18.94
1945	383,638	25.71	47.17	7.47	19.66
1946	423,700	25.04	48.05	7.44	19.47
1947	511,570	23.31	50.72	7.24	18.72
1949	614,674	23.31	51.01	7.44	18.24
1950	747,498	21.62	53.86	7.27	17.24
1951	821,808	21.93	53.42	7.07	17.58
1952	890,388	22.32	53.59	7.16	16.92
1953	972,452	22.58	52.72	7.54	17.16
1954	1,104,222	22.74	52.12	7.90	17.24
1955	1,230,954	25.28	49.24	8.50	16.98
1956	1,281,870	25.78	48.85	8.63	16.74
1957	1,370,628	25.38	48.74	8.93	16.95
1958	1,442,908	26.36	47.33	9.08	17.23
1959	1,523,492	27.14	46.63	8.90	17.33
1960	1,691,198	27.60	46.33	8.78	17.29
1961	1,826,890	28.93	44.91	8.96	17.20
1962	1,957,438	30.71	43.20	9.20	16.88
1963	2,181,330	29.41	45.11	8.98	16.50
1964	2,473,094	28.80	46.01	8.92	16.28
1965	2,707,973	29.89	44.43	9.25	16.43
1966	2,898,646	31.04	42.79	9.56	16.61
1967	2,998,196	31.24	42.91	9.69	16.16
1968	3,269,305	30.14	44.40	9.67	15.79
1969	3,781,863	30.44	44.29	9.49	15.78
1970	4,283,454	29.45	43.85	9.87	16.83

TABLE 5:32 ANNUAL EXPENDITURE, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	------THOUSANDS OF CONSTANT DOLLARS-------				-THOUSAN-	
		PR.	-----INCREASE-----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	2,575,800					
1924	2,874,392	2,575,800	298,592	11.59		
1925	2,989,234	2,874,392	114,842	4.00		
1926	3,024,212	2,989,234	34,978	1.17		
1927	3,422,135	3,024,212	397,923	13.16		
1928	3,496,243	3,422,135	74,108	2.17		
1929	3,587,324	3,496,243	91,081	2.61		
1930	3,352,225	3,587,324			-235,099	-6.55
1931	3,054,751	3,352,225			-297,474	-8.87
1932	3,138,488	3,054,751	83,737	2.74		
1933	3,136,691	3,138,488			-1,797	-0.06
1934	3,424,039	3,136,691	287,348	9.16		
1935	3,569,360	3,424,039	145,321	4.24		
1936	4,053,629	3,569,360	484,269	13.57		
1937	4,039,198	4,053,629			-14,431	-0.36
1938	4,081,899	4,039,198	42,701	1.06		
1939	4,395,424	4,081,899	313,525	7.68		
1940	4,367,937	4,395,424			-27,487	-0.63
1941	4,281,568	4,367,937			-86,369	-1.98
1942	4,294,124	4,281,568	12,556	0.29		
1943	4,288,782	4,294,124			-5,342	-0.12
1944	4,476,863	4,288,782	188,081	4.39		
1945	4,717,187	4,476,863	240,324	5.37		
1946	5,193,157	4,717,187	475,970	10.09		
1947	6,078,728	5,193,157	885,571	17.05		
1949	6,611,109	6,078,728	532,381	8.76		
1950	7,446,895	6,611,109	835,786	12.64		
1951	7,100,038	7,446,895			-346,857	-4.66
1952	6,939,075	7,100,038			-160,963	-2.27
1953	7,633,965	6,939,075	694,890	10.01		
1954	8,746,958	7,633,965	1,112,992	14.58		
1955	9,642,586	8,746,958	895,628	10.24		
1956	9,711,094	9,642,586	68,508	0.71		
1957	10,191,425	9,711,094	480,331	4.95		
1958	10,418,248	10,191,425	226,823	2.23		
1959	10,767,916	10,418,248	349,668	3.36		
1960	11,974,847	10,767,916	1,206,931	11.21		
1961	12,918,771	11,974,847	943,925	7.88		
1962	13,854,264	12,918,771	935,492	7.24		
1963	15,117,913	13,854,264	1,263,649	9.12		
1964	16,711,221	15,117,913	1,593,308	10.54		
1965	17,857,607	16,711,221	1,146,386	6.86		
1966	18,797,896	17,857,607	940,289	5.27		
1967	18,826,660	18,797,896	28,764	0.15		
1968	18,951,561	18,826,660	124,901	0.66		
1969	20,909,564	18,951,561	1,958,003	10.33		
1970	22,284,328	20,909,564	1,374,764	6.57		

TABLE 5:33 RATIO NEW INVESTMENT/PREVIOUS YEARS' SURPLUS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS				RATIO OF
	TOTAL	PR. TOTAL	NEW INV'MENT	MANUS' SURPLUS FROM PR. YEAR	NEW INV'MENT TO PR.SURPLUS
1923	147,442				
1924	164,446	147,442	17,004	5,920	2.87
1925	169,738	164,446	5,292	5,902	0.90
1926	163,132	169,738	-6,606	1,850	-3.57
1927	175,620	163,132	12,488	3,254	3.84
1928	177,208	175,620	1,588	2,230	0.71
1929	180,240	177,208	3,032	3,444	0.88
1930	163,780	180,240	-16,460	3,036	-5.42
1931	141,196	163,780	-22,584	2,084	-10.84
1932	142,252	141,196	1,056	1,014	1.04
1933	146,016	142,252	3,764	3,798	0.99
1934	160,190	146,016	14,174	7,218	1.96
1935	171,204	160,190	11,014	8,166	1.35
1936	196,378	171,240	25,138	9,364	2.68
1937	211,980	196,378	15,602	10,776	1.45
1938	217,606	211,980	5,626	11,732	0.48
1939	241,580	217,606	23,974	11,526	2.08
1940	270,492	241,580	28,912	14,886	1.94
1941	290,138	270,492	19,646	16,850	1.17
1942	313,222	290,138	23,084	19,592	1.18
1943	334,536	313,222	21,314	22,950	0.93
1944	358,614	334,536	24,078	25,014	0.96
1945	383,638	358,614	25,024	25,788	0.97
1946	423,700	383,638	40,062	25,496	1.57
1947	511,570	423,700	87,870	29,880	2.94
1949	614,674	511,570	103,104	31,746	3.25
1950	747,498	614,674	132,824	43,110	3.08
1951	821,808	747,498	74,310	36,598	2.03
1952	890,388	821,808	68,580	65,290	1.05
1953	972,452	890,388	82,064	61,218	1.34
1954	1,104,222	972,452	131,770	68,716	1.92
1955	1,230,954	1,104,222	126,732	78,044	1.62
1956	1,281,870	1,230,954	50,916	72,416	0.70
1957	1,370,628	1,281,870	88,758	71,602	1.24
1958	1,442,908	1,370,628	72,280	80,158	0.90
1959	1,523,492	1,442,908	80,584	83,612	0.96
1960	1,691,198	1,523,492	167,706	113,636	1.48
1961	1,826,890	1,691,198	135,692	113,858	1.19
1962	1,957,438	1,826,890	130,548	137,986	0.95
1963	2,181,330	1,957,438	223,892	144,858	1.55
1964	2,473,094	2,181,330	291,764	184,296	1.58
1965	2,707,973	2,473,094	234,879	192,916	1.22
1966	2,898,646	2,707,973	190,673	232,686	0.82
1967	2,998,196	2,898,646	99,550	227,427	0.44
1968	3,269,305	2,998,196	271,109	238,981	1.13
1969	3,781,863	3,269,305	512,558	263,317	1.95
1970	4,283,454	3,781,863	501,591	297,277	1.69

TABLE 5:34 RATIO NEW INVESTMENT FIXED ASSETS TO PR. SURPLUS
REVISED FACTORY PRODUCTION, 1923-1970

	-THOUSANDS OF NOMINAL DOLLARS--				
	TOTAL	PR. TOTAL	NEW INV'MENT	MANUS' SURPLUS FROM PR. YEAR	RATIO OF NEW INV'MENT TO PR.SURPLUS
1923	52,916				
1924	56,020	52,916	3,104	5,920	0.52
1925	59,430	56,020	3,410	5,902	0.58
1926	59,684	59,430	254	1,850	0.14
1927	61,344	59,684	1,660	3,254	0.51
1928	62,666	61,344	1,322	2,230	0.59
1929	64,874	62,666	2,208	3,444	0.64
1930	63,048	64,874	-1,826	3,036	-0.60
1931	59,654	63,048	-3,394	2,084	-1.63
1932	59,786	59,654	132	1,014	0.13
1933	58,034	59,786	-1,752	3,798	-0.46
1934	58,890	58,034	856	7,218	0.12
1935	60,536	58,890	1,646	8,166	0.20
1936	62,836	60,536	2,300	9,364	0.25
1937	66,936	62,836	4,100	10,776	0.38
1938	71,286	66,936	4,350	11,732	0.37
1939	76,178	71,286	4,892	11,526	0.42
1940	78,854	76,178	2,676	14,886	0.18
1941	81,876	78,854	3,022	16,850	0.18
1942	84,302	81,876	2,426	19,592	0.12
1943	87,268	84,302	2,966	22,950	0.13
1944	92,918	87,268	5,650	25,014	0.23
1945	98,620	92,918	5,702	25,788	0.22
1946	106,094	98,620	7,474	25,496	0.29
1947	119,262	106,094	13,168	29,880	0.44
1949	143,288	119,262	24,026	31,746	0.76
1950	161,622	143,288	18,334	43,110	0.43
1951	180,218	161,622	18,596	36,598	0.51
1952	198,768	180,218	18,550	65,290	0.28
1953	219,560	198,768	20,792	61,218	0.34
1954	251,060	219,560	31,500	68,716	0.46
1955	311,234	251,060	60,174	78,044	0.77
1956	330,444	311,234	19,210	72,416	0.27
1957	347,932	330,444	17,488	71,602	0.24
1958	380,312	347,932	32,380	80,158	0.40
1959	413,496	380,312	33,184	83,612	0.40
1960	466,824	413,496	53,328	113,636	0.47
1961	528,496	466,824	61,672	113,858	0.54
1962	601,190	528,496	72,694	137,986	0.53
1963	641,438	601,190	40,248	144,858	0.28
1964	712,234	641,438	70,796	184,296	0.38
1965	809,362	712,234	97,128	192,916	0.50
1966	899,603	809,362	90,241	232,686	0.39
1967	936,667	899,603	37,064	227,427	0.16
1968	985,315	936,667	48,648	238,981	0.20
1969	1,151,314	985,315	165,999	263,317	0.63
1970	1,261,454	1,151,314	110,140	297,277	0.37

TABLE 5.35 FRACTION OF GROSS DOMESTIC PRODUCT FROM REV. FACTORY PRODUCTION, 1949-70

YEAR	NEW VALUE ADDED IN MANUFACTURE THOUSANDS	GROSS DOMESTIC PRODUCT MILLIONS	CONTRIBUTION OF REV. FACTORY PROD'N TO GDP PERCENT
1923	30,582		
1924	32,554		
1925	30,604		
1926	31,994		
1927	30,456		
1928	31,978		
1929	32,658		
1930	29,232		
1931	22,504		
1932	24,210		
1933	27,704		
1934	31,006		
1935	35,084		
1936	42,818		
1937	48,754		
1938	50,820		
1939	58,340		
1940	64,902		
1941	72,606		
1942	81,428		
1943	87,672		
1944	93,702		
1945	100,908		
1946	112,372		
1947	127,510		
1949	155,202	1,107	14.02
1950	165,498	1,408	11.75
1951	209,760	1,508	13.91
1952	211,890	1,525	13.89
1953	235,614	1,606	14.67
1954	268,440	1,927	13.93
1955	281,432	2,022	13.92
1956	286,182	2,085	13.73
1957	312,424	2,294	13.62
1958	332,272	2,329	14.27
1959	377,724	2,374	15.91
1960	406,266	2,748	14.78
1961	452,242	2,872	15.75
1962	475,342	3,114	15.26
1963	544,230	3,397	16.02
1964	595,450	3,721	16.00
1965	677,727	4,012	16.89
1966	708,987	4,190	16.92
1967	723,465	4,375	16.54
1968	779,644	4,642	16.80
1969	893,980	5,133	17.42
1970	1,032,907	5,832	17.71

APPENDIX 6. MARXIAN CATEGORIES

FROM BOURGEOIS TO MARXIST CATEGORIES

The function of this appendix is to show (1) the disaggregation of official statistical categories (2) the reaggregation of the components along marxist lines and (3) that in transforming the data from bourgeois to marxian categories qualities change but quantities are preserved .

The results of these tables give the annual flow of each value item. These annual flows are converted to stocks and then to explanatory variables, ratios, in Appendix 7 below.

The task is to determine (1) the Variable Capital fraction in Wages & Salaries (2) to extract Circulating Constant Capital from Raw Materials, Other Productive Expenses and Wages & Salaries (3) to determine the annual reconstitution of Fixed Constant Capital, and (4) to fix the level of surplus-value by subtracting from the value of the product all the reproduced value.

A table has been produced in each section to clearly demonstrate that the quantities are in fact preserved in these transformations.

The methodological principles applied are

APPENDIX 6. MARXIAN CATEGORIES

The methodological principles applied are discussed in the main text (chapter 5). The construction of each marxian aggregate is shown in a separate section.

Many of the steps taken in appendices 3 & 4 are retraced here. This is because the activities being excluded for the sake of consistency themselves have to be broken down to the level of marxian elements. In Appendix 4, for example, where the concern was to get a consistent set of values for Wages and Salaries it was possible simply to subtract the total wage bill of dairy factories. In this appendix, where the concern is to determine Variable Capital it is necessary to make two subtractions, one for the non-productive wages and another for productive wages of Persons Engaged in dairy factories.

To this point in the appendices it has been necessary to refer to data in the annual reports, as opposed to the Historical Summaries, only to get values for the industries excluded. As is discussed in the Preface to this volume working from the two data sets necessarily introduces a degree of inconsistency in the data set because Historical Summaries are revisions to the data in the annual reports. Historical Summaries produced after 1951, for example, exclude the logging

operations of sawmilling while these are included in the annual reports to this time.

The consequences of working from two slightly different data sets are more severe in this appendix. In order to break down official aggregates it is necessary to take data at the sub-category level. This is only available in the annual reports. In a few cases revised data is available at the sub-category level but only for a few years prior to the particular report. Here, for the first time, it is possible to establish the margin of error that is induced by working backwards and forwards through two slightly different data sets, see Section 6.C below.

In keeping with the conventions laid out in the Preface to this volume, wherever a significant discrepancy creeps into a series this series is scaled back to fit the values reported in the Historical Summaries. For this reason the series in these appendices generally balance. The fact that the figures balance should not be taken to indicate that all the inconsistency is removed.

To disaggregate the data it is necessary to turn to the sub-categories in the annual reports. Since the Historical Summaries report only whole categories

discrepancies can only be observed when the values for the sub-categories are re-aggregated to the category level. This poses a problem, where differences are observed which of the sub-categories are at fault and should be scaled to bring the whole back into line with the values in the Historical Summaries ?

In this appendix this problem is resolved quite mechanically. Wherever a marked difference between the values in the Historical Summaries and those from aggregated sub-category data appears for particular years the values for the elements are checked in their long run series. Then the scaling back is carried out on all elements where the values for those years appears to depart from the over all tendency in the series.

It is quite possible that accurate figures are made inaccurate by these means. For this reason the values at the sub-aggregate level should be treated with caution. Generally speaking, the reliability and robustness of the values in this appendix will increase as the figures are aggregated.

The order of the tables, their construction, formulae employed, and additional data sources are discussed in the relevant sections.

APPENDIX 6.A

6.A PRODUCTIVE LABOUR

In official statistics Persons Engaged are divided into occupational groupings: (1) Proprietors; (2) Managers & Overseers; (3) Accountants & Clerks; (4) Wage Earners; and since 1962 (5) Technicians. In the main text (chapter #) we identified Productive Labour as the labour of Wage Earners. Consequently the labour of the other four groups (1, 2, 3 & 5) is identified as Non-Productive.

To determine the number of productive workers it is necessary only to regroup the occupations of Persons Engaged in the tables of Appendix 4 along these lines. The sexual division is preserved to enable missing values to be estimated later on.

There are 20 tables in the section. 6:1 to 6.5 show the estimation of missing values and the split of productive and non-productive workers for Persons Engaged and by sex. As is discussed above (pp79-80) there are no data in official statistics for occupations in 1923 & 1924 or for occupations by sex for 1928 & 1929. To fill the series the ratio of persons in the sub-category to total persons is struck for the two years succeeding breaks in the data. The ratios are averaged. For each year where data is

missing the fixed (averaged) ratio is used against the total (known) for that year to estimate the missing values.

Table 6:6 shows the ratio of productive to non productive workers. 6:7 to 6:9 show the relative and absolute change in the number of productive workers year by year. The technique employed is that for all similar tables above. 6:10 shows non-productive workers by sex. 6:11 to 6:13 repeat the steps of 6:7 to 6:9 but this time for non-productive workers.

Tables 6:14 to 6:20 show the number of hours worked each year by productive workers and productive workers by sex. Data for over & short time are taken from the annual reports. The number of ordinary hours worked each week and the various Acts relating to work in "factories" in discussed in the main text (chapter #). In 1936 the ordinary working week was shortened from 48 hours for adult males and 44 hours for females and male youths to 40 hours. For 1936 we set ordinary hours as the mid point between that for 1935 and that for 1937. It is impossible to differentiate between adult and youth males and all male productive workers are treated alike in this section. Consequently, to 1936 the number of male hours will be overestimated by 4 hours per week for every male youth.

TABLE 6.1 PRODUCTIVE WORKERS, ABSOLUTE AND RELATIVE NUMBERS REV. FACTORY PRODUCTION, 1923-70

	NUMBER PERSONS ENGAGED	-----WAGE EARNERS----- ---REPORTED--- NO.	%	ESTIM NO.	NUMBER OF PRODUCTIVE WORKERS
1923	67,040		83.1	55,710	55,710
1924	69,445		83.1	57,709	57,709
1925	70,521	58,626	83.1		58,626
1926	70,225	58,302	83.0		58,302
1927	70,384	58,324	82.9		58,324
1928	72,280	60,136	83.2		60,136
1929	74,119	61,677	83.2		61,677
1930	69,485	57,294	82.5		57,294
1931	60,345	48,902	81.0		48,902
1932	60,355	48,852	80.9		48,852
1933	63,805	52,113	81.7		52,113
1934	70,883	58,828	83.0		58,828
1935	77,464	64,654	83.5		64,654
1936	86,963	73,420	84.4		73,420
1937	92,869	78,947	85.0		78,947
1938	92,910	78,697	84.7		78,697
1939	98,983	84,160	85.0		84,160
1940	104,060	88,915	85.4		88,915
1941	107,094	91,921	85.8		91,921
1942	105,244	90,334	85.8		90,334
1943	108,531	93,246	85.9		93,246
1944	112,800	96,779	85.8		96,779
1945	118,212	100,332	84.9		100,332
1946	124,178	104,655	84.3		104,655
1947	130,070	109,837	84.4		109,837
1949	133,595	114,063	85.4		114,063
1950	137,895	117,536	85.2		117,536
1951	139,850	119,161	85.2		119,161
1952	138,513	117,733	85.0		117,733
1953	141,899	121,431	85.6		121,431
1954	149,002	127,664	85.7		127,664
1955	153,658	130,801	85.1		130,801
1956	152,072	128,698	84.6		128,698
1957	158,168	133,807	84.6		133,807
1958	164,156	138,906	84.6		138,906
1959	167,349	141,345	84.5		141,345
1960	176,790	149,171	84.4		149,171
1961	183,094	154,137	84.2		154,137
1962	186,960	156,256	83.6		156,256
1963	194,962	162,614	83.4		162,614
1964	206,640	171,830	83.2		171,830
1965	218,517	181,524	83.1		181,524
1966	224,638	186,077	82.8		186,077
1967	221,026	181,819	82.3		181,819
1968	224,544	184,160	82.0		184,160
1969	236,809	195,108	82.4		195,108
1970	246,756	203,469	82.5		203,469

TABLE 6.2 FEMALE PERSONS ENGAGED, ESTIMATED & KNOWN NUMBERS
REV. FACTORY PRODUCTION, 1923-70

	NUMBER PERSONS ENGAGED	FEMALE PERSONS ENGAGED	FEMALES PERCENT NUMBER	ESTIM.	ESTIM. & KNOWN
1923	67,040		20.8	13,944	13,944
1924	69,445		20.8	14,445	14,445
1925	70,521	14,129	20.0		14,129
1926	70,225	14,390	20.5		14,390
1927	70,384	15,179	21.6		15,179
1928	72,280	15,911	22.0		15,911
1929	74,119	16,737	22.6		16,737
1930	69,485	16,244	23.4		16,244
1931	60,345	15,138	25.1		15,138
1932	60,355	15,803	26.2		15,803
1933	63,805	16,673	26.1		16,673
1934	70,883	18,850	26.6		18,850
1935	77,464	20,961	27.1		20,961
1936	86,963	23,645	27.2		23,645
1937	92,910	25,432	27.4		25,432
1938	98,983	24,871	25.1		24,871
1939	104,060	27,717	26.6		27,717
1940	107,094	31,356	29.3		31,356
1941	103,284	34,094	33.0		34,094
1942	105,244	34,840	33.1		34,840
1943	108,531	34,936	32.2		34,936
1944	112,800	35,390	31.4		35,390
1945	118,212	34,481	29.2		34,481
1946	124,178	32,562	26.2		32,562
1947	130,070	33,131	25.5		33,131
1949	133,595	34,348	25.7		34,348
1950	137,895	36,354	26.4		36,354
1951	139,850	37,136	26.6		37,136
1952	138,513	35,483	25.6		35,483
1953	141,899	36,741	25.9		36,741
1954	149,002	38,927	26.1		38,927
1955	153,658	39,711	25.8		39,711
1956	152,072	38,596	25.4		38,596
1957	158,168	40,820	25.8		40,820
1958	164,156	42,796	26.1		42,796
1959	167,349	42,957	25.7		42,957
1960	176,790	45,290	25.6		45,290
1961	183,094	46,896	25.6		46,896
1962	186,960	47,322	25.3		47,322
1963	194,962	49,948	25.6		49,948
1964	206,640	52,956	25.6		52,956
1965	218,517	57,201	26.2		57,201
1966	224,638	58,856	26.2		58,856
1967	221,026	56,880	25.7		56,880
1968	224,544	57,212	25.5		57,212
1969	236,809	61,387	25.9		61,387
1970	246,756	64,756	26.2		64,756

TABLE 6.3 PERSONS ENGAGED BY SEX
REV. FACTORY PRODUCTION, 1923-70

	NUMBER PERSONS ENGAGED	FEMALE PERSONS ENGAGED	MALE PERSONS ENGAGED
1923	67,040	13,944	53,096
1924	69,445	14,445	55,000
1925	70,521	14,129	56,392
1926	70,225	14,390	55,835
1927	70,384	15,179	55,205
1928	72,280	15,911	56,369
1929	74,119	16,737	57,382
1930	69,485	16,244	53,241
1931	60,345	15,138	45,207
1932	60,355	15,803	44,552
1933	63,805	16,673	47,132
1934	70,883	18,850	52,033
1935	77,464	20,961	56,503
1936	86,963	23,645	63,318
1937	92,910	25,432	67,478
1938	98,983	24,871	74,112
1939	104,060	27,717	76,343
1940	107,094	31,356	75,738
1941	103,284	34,094	69,190
1942	105,244	34,840	70,404
1943	108,531	34,936	73,595
1944	112,800	35,390	77,410
1945	118,212	34,481	83,731
1946	124,178	32,562	91,616
1947	130,070	33,131	96,939
1949	133,595	34,348	99,247
1950	137,895	36,354	101,541
1951	139,850	37,136	102,714
1952	138,513	35,483	103,030
1953	141,899	36,741	105,158
1954	149,002	38,927	110,075
1955	153,658	39,711	113,947
1956	152,072	38,596	113,476
1957	158,168	40,820	117,348
1958	164,156	42,796	121,360
1959	167,349	42,957	124,392
1960	176,790	45,290	131,500
1961	183,094	46,896	136,198
1962	186,960	47,322	139,638
1963	194,962	49,948	145,014
1964	206,640	52,956	153,684
1965	218,517	57,201	161,316
1966	224,638	58,856	165,782
1967	221,026	56,880	164,146
1968	224,544	57,212	167,332
1969	236,809	61,387	175,422
1970	246,756	64,756	182,000

TABLE 6.4 FEMALE PRODUCTIVE WORKERS
REV. FACTORY PRODUCTION, 1923-70

	-----FEMALE------		PERCENT	ESTIM.	FEMALE
	PERSONS ENGAGED	WAGE EARNERS	WAGE EARNERS		PRODUCTIVE WORKERS
1923	13,944		86.4	12,048	12,048
1924	14,445		86.4	12,480	12,480
1925	14,129	12,211	86.4		12,211
1926	14,390	12,434	86.4		12,434
1927	15,179	13,107	86.3		13,107
1928	15,911	13,695	86.1		13,695
1929	17,857	14,348	80.3		14,348
1930	16,244	13,962	86.0		13,962
1931	15,138	12,909	85.3		12,909
1932	15,803	13,558	85.8		13,558
1933	16,673	14,410	86.4		14,410
1934	18,850	16,425	87.1		16,425
1935	20,691	18,068	87.3		18,068
1936	23,645	20,878	88.3		20,878
1937	25,432	22,477	88.4		22,477
1938	24,871	21,671	87.1		21,671
1939	27,717	24,249	87.5		24,249
1940	31,356	27,615	88.1		27,615
1941	34,094	29,859	87.6		29,859
1942	34,840	30,309	87.0		30,309
1943	34,936	30,206	86.5		30,206
1944	35,390	30,597	86.5		30,597
1945	34,481	29,494	85.5		29,494
1946	32,562	27,441	84.3		27,441
1947	33,131	28,032	84.6		28,032
1949	34,348	29,563	86.1		29,563
1950	36,354	31,250	86.0		31,250
1951	37,136	32,068	86.4		32,068
1952	35,493	30,340	85.5		30,340
1953	36,741	31,663	86.2		31,663
1954	38,927	33,576	86.3		33,576
1955	39,711	33,906	85.4		33,906
1956	38,596	32,617	84.5		32,617
1957	40,820	34,416	84.3		34,416
1958	42,796	36,106	84.4		36,106
1959	42,957	35,979	83.8		35,979
1960	45,290	37,971	83.8		37,971
1961	46,896	39,178	83.5		39,178
1962	47,322	39,244	82.9		39,244
1963	49,948	41,456	83.0		41,456
1964	52,956	43,569	82.3		43,569
1965	57,201	47,123	82.4		47,123
1966	58,856	48,401	82.2		48,401
1967	56,880	46,177	81.2		46,177
1968	57,212	45,959	80.3		45,959
1969	61,387	49,524	80.7		49,524
1970	64,756	52,750	81.5		52,750

TABLE 6.5 PRODUCTIVE WORKERS BY SEX
REV. FACTORY PRODUCTION, 1923-70

	PRODUCTIVE WORKERS			
	TOTAL	FEMALE	MALE	MALE % TOTAL
1923	55,710	12,048	43,662	78.4
1924	57,709	12,480	45,229	78.4
1925	58,626	12,211	46,415	79.2
1926	58,302	12,434	45,868	78.7
1927	58,324	13,107	45,217	77.5
1928	60,136	13,695	46,441	77.2
1929	61,677	14,348	47,329	76.7
1930	57,294	13,962	43,332	75.6
1931	48,902	12,909	35,993	73.6
1932	48,852	13,558	35,294	72.2
1933	52,113	14,410	37,703	72.3
1934	58,828	16,425	42,403	72.1
1935	64,654	18,068	46,586	72.1
1936	73,420	20,878	52,542	71.6
1937	78,947	22,477	56,470	71.5
1938	78,697	21,671	57,026	72.5
1939	84,160	24,249	59,911	71.2
1940	88,915	27,615	61,300	68.9
1941	91,921	29,859	62,062	67.5
1942	90,334	30,309	60,025	66.4
1943	93,246	30,206	63,040	67.6
1944	96,779	30,597	66,182	68.4
1945	100,332	29,494	70,838	70.6
1946	104,655	27,441	77,214	73.8
1947	109,837	28,032	81,805	74.5
1949	114,063	29,563	84,500	74.1
1950	117,536	31,250	86,286	73.4
1951	119,161	32,068	87,093	73.1
1952	117,733	30,340	87,393	74.2
1953	121,431	31,663	89,768	73.9
1954	127,664	33,576	94,088	73.7
1955	130,801	33,906	96,895	74.1
1956	128,698	32,617	96,081	74.7
1957	133,807	34,416	99,391	74.3
1958	138,906	36,106	102,800	74.0
1959	141,345	35,979	105,366	74.5
1960	149,171	37,971	111,200	74.5
1961	154,137	39,178	114,959	74.6
1962	156,256	39,244	117,012	74.9
1963	162,614	41,456	121,158	74.5
1964	171,830	43,569	128,261	74.6
1965	181,524	47,123	134,401	74.0
1966	186,077	48,401	137,676	74.0
1967	181,819	46,177	135,642	74.6
1968	184,160	45,959	138,201	75.0
1969	195,108	49,524	145,584	74.6
1970	203,469	52,750	150,719	74.1

TABLE 6.6 PRODUCTIVE WORKERS PER NON-PRODUCTIVE WORKER REV. FACTORY PRODUCTION, 1923-70

	PERSONS ENGAGED			RATIO
	TOTAL	PRODUCTIVE WORKERS	NON PROD. WORKERS	PROD. TO NON-PROD.
1923	67,040	55,710	11,330	4.9
1924	69,445	57,709	11,736	4.9
1925	70,521	58,626	11,895	4.9
1926	70,225	58,302	11,923	4.9
1927	70,384	58,324	12,060	4.8
1928	72,280	60,136	12,144	5.0
1929	74,119	61,677	12,442	5.0
1930	69,485	57,294	12,191	4.7
1931	60,345	48,902	11,443	4.3
1932	60,355	48,852	11,503	4.2
1933	63,805	52,113	11,692	4.5
1934	70,883	58,828	12,055	4.9
1935	77,464	64,654	12,810	5.0
1936	86,963	73,420	13,543	5.4
1937	92,869	78,947	13,922	5.7
1938	92,910	78,697	14,213	5.5
1939	98,983	84,160	14,823	5.7
1940	104,060	88,915	15,145	5.9
1941	107,094	91,921	15,173	6.1
1942	105,244	90,334	14,910	6.1
1943	108,531	93,246	15,285	6.1
1944	112,800	96,779	16,021	6.0
1945	118,212	100,332	17,880	5.6
1946	124,178	104,655	19,523	5.4
1947	130,070	109,837	20,233	5.4
1949	133,595	114,063	19,532	5.8
1950	137,895	117,536	20,359	5.8
1951	139,850	119,161	20,689	5.8
1952	138,513	117,733	20,780	5.7
1953	141,899	121,431	20,468	5.9
1954	149,002	127,664	21,338	6.0
1955	153,658	130,801	22,857	5.7
1956	152,072	128,698	23,374	5.5
1957	158,168	133,807	24,361	5.5
1958	164,156	138,906	25,250	5.5
1959	167,349	141,345	26,004	5.4
1960	176,790	149,171	27,619	5.4
1961	183,094	154,137	28,957	5.3
1962	186,960	156,256	30,704	5.1
1963	194,962	162,614	32,348	5.0
1964	206,640	171,830	34,810	4.9
1965	218,517	181,524	36,993	4.9
1966	224,638	186,077	38,561	4.8
1967	221,026	181,819	39,207	4.6
1968	224,544	184,160	40,384	4.6
1969	236,809	195,108	41,701	4.7
1970	246,756	203,469	43,287	4.7

TABLE 6.7 PRODUCTIVE WORKERS CHANGE & % CHANGE
REV. FACTORY PRODUCTION, 1923-70

	---PRODUCTIVE WORKERS----					
		PR.	---INCREASE---		---DECREASE----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	55,710					
1924	57,709	57,118	591	1.03		
1925	58,626	59,167			-541	-0.91
1926	58,302	58,626			-324	-0.55
1927	58,324	58,302	22	0.04		
1928	60,136	58,324	1,812	3.11		
1929	61,677	60,136	1,541	2.56		
1930	57,294	61,677			-4,383	-7.11
1931	48,902	57,294			-8,392	-14.65
1932	48,852	48,902			-50	-0.10
1933	52,113	48,852	3,261	6.68		
1934	58,828	52,113	6,715	12.89		
1935	64,654	58,828	5,826	9.90		
1936	73,420	64,654	8,766	13.56		
1937	78,947	73,420	5,527	7.53		
1938	78,697	78,947			-250	-0.32
1939	84,160	78,697	5,463	6.94		
1940	88,915	84,160	4,755	5.65		
1941	91,921	88,915	3,006	3.38		
1942	90,334	91,921			-1,587	-1.73
1943	93,246	90,334	2,912	3.22		
1944	96,779	93,246	3,533	3.79		
1945	100,332	96,779	3,553	3.67		
1946	104,655	100,332	4,323	4.31		
1947	109,837	104,655	5,182	4.95		
1949	114,063	109,837	4,226	3.85		
1950	117,536	114,063	3,473	3.04		
1951	119,161	117,536	1,625	1.38		
1952	117,733	119,161			-1,428	-1.20
1953	121,431	117,733	3,698	3.14		
1954	127,664	121,431	6,233	5.13		
1955	130,801	127,664	3,137	2.46		
1956	128,698	130,801			-2,103	-1.61
1957	133,807	128,698	5,109	3.97		
1958	138,906	133,807	5,099	3.81		
1959	141,345	138,906	2,439	1.76		
1960	149,171	141,345	7,826	5.54		
1961	154,137	149,171	4,966	3.33		
1962	156,256	154,137	2,119	1.37		
1963	162,614	156,256	6,358	4.07		
1964	171,830	162,614	9,216	5.67		
1965	181,524	171,830	9,694	5.64		
1966	186,077	181,524	4,553	2.51		
1967	181,819	186,077			-4,258	-2.29
1968	184,160	181,819	2,341	1.29		
1969	195,108	184,160	10,948	5.94		
1970	203,469	195,108	8,361	4.29		

TABLE 6.8 FEMALE PRODUCTIVE WORKERS CHANGE & % CHANGE
REV. FACTORY PRODUCTION, 1923-70

	-FEMALE PROD. WORKERS-					
			--INCREASE---		---DECREASE---	
	TOTAL	PR. TOTAL	NO.	%	NO.	%
1923	12,048					
1924	12,480	12,048	432	3.59		
1925	12,211	12,480			-269	-2.16
1926	12,434	12,211	223	1.83		
1927	13,107	12,434	673	5.41		
1928	13,695	13,107	588	4.49		
1929	14,438	13,695	743	5.43		
1930	13,962	14,438			-476	-3.30
1931	12,909	13,962			-1,053	-7.54
1932	13,558	12,909	649	5.03		
1933	14,410	13,558	852	6.28		
1934	16,425	14,410	2,015	13.98		
1935	18,068	16,425	1,643	10.00		
1936	20,878	18,068	2,810	15.55		
1937	22,477	20,878	1,599	7.66		
1938	21,671	22,477			-806	-3.59
1939	24,249	21,671	2,578	11.90		
1940	27,615	24,249	3,366	13.88		
1941	29,859	27,615	2,244	8.13		
1942	30,309	29,859	450	1.51		
1943	30,206	30,309			-103	-0.34
1944	30,597	30,206	391	1.29		
1945	29,494	30,597			-1,103	-3.60
1946	27,441	29,494			-2,053	-6.96
1947	28,032	27,441	591	2.15		
1949	29,563	28,032	1,531	5.46		
1950	31,250	29,563	1,687	5.71		
1951	32,068	31,250	818	2.62		
1952	30,340	32,068			-1,728	-5.39
1953	31,663	30,340	1,323	4.36		
1954	33,576	31,663	1,913	6.04		
1955	33,906	33,576	330	0.98		
1956	32,617	33,906			-1,289	-3.80
1957	34,416	32,617	1,799	5.52		
1958	36,106	34,416	1,690	4.91		
1959	35,979	36,106			-127	-0.35
1960	37,971	35,979	1,992	5.54		
1961	39,178	37,971	1,207	3.18		
1962	39,244	39,178	66	0.17		
1963	41,456	39,244	2,212	5.64		
1964	43,569	41,456	2,113	5.10		
1965	47,123	43,569	3,554	8.16		
1966	48,401	47,123	1,278	2.71		
1967	46,177	48,401			-2,224	-4.59
1968	45,959	46,177			-218	-0.47
1969	49,524	45,959	3,565	7.76		
1970	52,750	49,524	3,226	6.51		

TABLE 6.9 MALE PRODUCTIVE WORKERS CHANGE & % CHANGE
REV. FACTORY PRODUCTION, 1923-70

	---MALE PROD. WORKERS---					
		PR.	--INCREASE---		---DECREASE----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	43,662					
1924	45,229	43,662	1,567	3.59		
1925	46,415	45,229	1,186	2.62		
1926	45,868	46,415			-547	-1.18
1927	45,217	45,868			-651	-1.42
1928	46,441	45,217	1,224	2.71		
1929	47,329	46,441	888	1.91		
1930	43,332	47,329			-3,997	-8.45
1931	35,993	43,332			-7,339	-16.94
1932	35,294	35,993			-699	-1.94
1933	37,703	35,294	2,409	6.83		
1934	42,403	37,703	4,700	12.47		
1935	46,586	42,403	4,183	9.86		
1936	52,542	46,586	5,956	12.78		
1937	56,470	52,542	3,928	7.48		
1938	57,026	56,470	556	0.98		
1939	59,911	57,026	2,885	5.06		
1940	61,300	59,911	1,389	2.32		
1941	62,062	61,300	762	1.24		
1942	60,025	62,062			-2,037	-3.28
1943	63,040	60,025	3,015	5.02		
1944	66,182	63,040	3,142	4.98		
1945	70,838	66,182	4,656	7.04		
1946	77,214	70,838	6,376	9.00		
1947	81,805	77,214	4,591	5.95		
1949	84,500	81,805	2,695	3.29		
1950	86,286	84,500	1,786	2.11		
1951	87,093	86,286	807	0.94		
1952	87,393	87,093	300	0.34		
1953	89,768	87,393	2,375	2.72		
1954	94,088	89,768	4,320	4.81		
1955	96,895	94,088	2,807	2.98		
1956	96,081	96,895			-814	-0.84
1957	99,391	96,081	3,310	3.45		
1958	102,800	99,391	3,409	3.43		
1959	105,366	102,800	2,566	2.50		
1960	111,200	105,366	5,834	5.54		
1961	114,959	111,200	3,759	3.38		
1962	117,012	114,959	2,053	1.79		
1963	121,158	117,012	4,146	3.54		
1964	128,261	121,158	7,103	5.86		
1965	134,401	128,261	6,140	4.79		
1966	137,676	134,401	3,275	2.44		
1967	135,642	137,676			-2,034	-1.48
1968	138,201	135,642	2,559	1.89		
1969	145,584	138,201	7,383	5.34		
1970	150,719	145,584	5,135	3.53		

TABLE 6.10 NON-PRODUCTIVE WORKERS BY SEX
REV. FACTORY PRODUCTION, 1923-70

	TOTAL NON PROD. WORKERS	-----FEMALE------ PERSONS ENGAGED	PROD. WORKERS	----NON PRODUCTIVE----- ----WORKERS---- FEMALE	MALE	MALE % TOTAL
1923	11,330	13,944	12,048	1,896	9,434	83.3
1924	11,736	14,445	12,480	1,965	9,771	83.3
1925	11,895	14,129	12,211	1,918	9,977	83.9
1926	11,923	14,390	12,434	1,956	9,967	83.6
1927	12,060	15,179	13,107	2,072	9,988	82.8
1928	12,144	15,911	13,695	2,216	9,928	81.8
1929	12,442	16,737	14,348	2,389	10,053	80.8
1930	12,191	16,244	13,962	2,282	9,909	81.3
1931	11,443	15,138	12,909	2,229	9,214	80.5
1932	11,503	15,803	13,558	2,245	9,258	80.5
1933	11,692	16,673	14,410	2,263	9,429	80.6
1934	12,055	18,850	16,425	2,425	9,630	79.9
1935	12,810	20,691	18,068	2,623	10,187	79.5
1936	13,543	23,645	20,878	2,767	10,776	79.6
1937	13,922	25,432	22,477	2,955	10,967	78.8
1938	14,213	24,871	21,671	3,200	11,013	77.5
1939	14,823	27,717	24,249	3,468	11,355	76.6
1940	15,145	31,356	27,615	3,741	11,404	75.3
1941	15,173	34,094	29,859	4,235	10,938	72.1
1942	14,910	34,840	30,309	4,531	10,379	69.6
1943	15,285	34,936	30,206	4,730	10,555	69.1
1944	16,021	35,390	30,597	4,793	11,228	70.1
1945	17,880	34,481	29,494	4,987	12,893	72.1
1946	19,523	32,562	27,441	5,121	14,402	73.8
1947	20,233	33,131	28,032	5,099	15,134	74.8
1949	19,532	34,348	29,563	4,785	14,747	75.5
1950	20,539	36,354	31,250	5,104	15,435	75.1
1951	20,689	37,136	32,068	5,068	15,621	75.5
1952	20,780	35,493	30,340	5,153	15,627	75.2
1953	20,468	36,741	31,663	5,078	15,390	75.2
1954	21,338	38,927	33,576	5,351	15,987	74.9
1955	22,857	39,711	33,906	5,805	17,052	74.6
1956	23,374	38,596	32,617	5,979	17,395	74.4
1957	24,361	40,820	34,416	6,404	17,957	73.7
1958	25,250	42,796	36,106	6,690	18,560	73.5
1959	26,004	42,957	35,979	6,978	19,026	73.2
1960	27,619	45,290	37,971	7,319	20,300	73.5
1961	28,957	46,896	39,178	7,718	21,239	73.3
1962	30,704	47,322	39,244	8,078	22,626	73.7
1963	32,348	49,948	41,456	8,492	23,856	73.7
1964	34,810	52,956	43,569	9,387	25,423	73.0
1965	36,993	57,201	47,123	10,078	26,915	72.8
1966	38,561	58,856	48,401	10,455	28,106	72.9
1967	39,207	56,880	46,177	10,703	28,504	72.7
1968	40,384	57,212	45,959	11,253	29,131	72.1
1969	41,701	61,387	49,524	11,863	29,838	71.6
1970	43,287	64,756	52,750	12,006	31,281	72.3

TABLE 6.11 NON PRODUCTIVE WORKERS CHANGE & % CHANGE
REV. FACTORY PRODUCTION, 1923-70

	--NON PROD. WORKERS---					
		PR.	--INCREASE---		--DECREASE--	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	11,330					
1924	11,736	11,330	406	3.58		
1925	11,895	11,736	159	1.35		
1926	11,923	11,895	28	0.24		
1927	12,060	11,923	137	1.15		
1928	12,144	12,060	84	0.70		
1929	12,442	12,144	298	2.45		
1930	12,191	12,442			-251	-2.02
1931	11,443	12,191			-748	-6.14
1932	11,503	11,443	60	0.52		
1933	11,692	11,503	189	1.64		
1934	12,055	11,692	363	3.10		
1935	12,810	12,055	755	6.26		
1936	13,543	12,810	733	5.72		
1937	13,922	13,543	379	2.80		
1938	14,213	13,922	291	2.09		
1939	14,823	14,213	610	4.29		
1940	15,145	14,823	322	2.17		
1941	15,173	15,145	28	0.18		
1942	14,910	15,173			-263	-1.73
1943	15,285	14,910	375	2.52		
1944	16,021	15,285	736	4.82		
1945	17,880	16,021	1,859	11.60		
1946	19,523	17,880	1,643	9.19		
1947	20,233	19,523	710	3.64		
1949	19,532	20,233			-701	-3.46
1950	20,539	19,532	1,007	5.16		
1951	20,689	20,539	150	0.73		
1952	20,780	20,689	91	0.44		
1953	20,468	20,780			-312	-1.50
1954	21,338	20,468	870	4.25		
1955	22,857	21,338	1,519	7.12		
1956	23,374	22,857	517	2.26		
1957	24,361	23,374	987	4.22		
1958	25,250	24,361	889	3.65		
1959	26,004	25,250	754	2.99		
1960	27,619	26,004	1,615	6.21		
1961	28,957	26,619	2,338	8.78		
1962	30,704	28,957	1,747	6.03		
1963	32,348	30,704	1,644	5.35		
1964	34,810	32,348	2,462	7.61		
1965	36,993	34,810	2,183	6.27		
1966	38,561	36,993	1,568	4.24		
1967	39,207	38,561	646	1.68		
1968	40,384	39,207	1,177	3.00		
1969	41,701	40,384	1,317	3.26		
1970	43,287	41,701	1,586	3.80		

TABLE 6.12 FEMALE NON-PRODUCTIVE WORKERS CHANGE & % CHANGE
REV. FACTORY PRODUCTION, 1923-70

	-FEMALE NON PROD. WORKERS--					
		PR.	-INCREASE--		--DECREASE--	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	1,896					
1924	1,965	1,896	69	3.64		
1925	1,918	1,965			-47	-2.39
1926	1,956	1,918	38	1.98		
1927	2,072	1,956	116	5.93		
1928	2,216	2,072	144	6.95		
1929	2,389	2,216	173	7.81		
1930	2,282	2,389			-107	-4.48
1931	2,229	2,282			-53	-2.32
1932	2,245	2,229	16	0.72		
1933	2,263	2,245	18	0.80		
1934	2,425	2,263	162	7.16		
1935	2,623	2,425	198	8.16		
1936	2,767	2,623	144	5.49		
1937	2,955	2,767	188	6.79		
1938	3,200	2,955	245	8.29		
1939	3,468	3,200	268	8.38		
1940	3,741	3,468	273	7.87		
1941	4,235	3,741	494	13.21		
1942	4,531	4,235	296	6.99		
1943	4,730	4,531	199	4.39		
1944	4,793	4,730	63	1.33		
1945	4,987	4,793	194	4.05		
1946	5,121	4,987	134	2.69		
1947	5,099	5,121			-22	-0.43
1949	4,785	5,099			-314	-6.16
1950	5,104	4,785	319	6.67		
1951	5,068	5,104			-36	-0.71
1952	5,153	5,068	85	1.68		
1953	5,078	5,153			-75	-1.46
1954	5,351	5,078	273	5.38		
1955	5,805	5,351	454	8.48		
1956	5,979	5,805	174	3.00		
1957	6,404	5,979	425	7.11		
1958	6,690	6,404	286	4.47		
1959	6,978	6,690	288	4.30		
1960	7,319	6,978	341	4.89		
1961	7,718	7,319	399	5.45		
1962	8,078	7,718	360	4.66		
1963	8,492	8,078	414	5.13		
1964	9,387	8,492	895	10.54		
1965	10,078	9,387	691	7.36		
1966	10,455	10,078	377	3.74		
1967	10,703	10,455	248	2.37		
1968	11,253	10,703	550	5.14		
1969	11,863	11,253	610	5.42		
1970	12,006	11,863	143	1.21		

TABLE 6.13 MALE NON-PRODUCTIVE WORKERS CHANGE & % CHANGE
REV. FACTORY PRODUCTION, 1923-70

	---MALE NON PROD. WORKERS----					
		PR.	--INCREASE---		--DECREASE--	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	9,434					
1924	9,771	9,434	337	3.57		
1925	9,977	9,771	206	2.11		
1926	9,967	9,977			-10	-0.10
1927	9,988	9,967	21	0.21		
1928	9,928	9,988			-60	-0.60
1929	10,053	9,928	125	1.26		
1930	9,909	10,053			-144	-1.43
1931	9,214	9,909			-695	-7.01
1932	9,258	9,214	44	0.48		
1933	9,429	9,258	171	1.85		
1934	9,630	9,429	201	2.13		
1935	10,187	9,630	557	5.78		
1936	10,776	10,187	589	5.78		
1937	10,967	10,776	191	1.77		
1938	11,013	10,967	46	0.42		
1939	11,355	11,013	342	3.11		
1940	11,404	11,355	49	0.43		
1941	10,938	11,404			-466	-4.09
1942	10,379	10,938			-559	-5.11
1943	10,555	10,379	176	1.70		
1944	11,228	10,555	673	6.38		
1945	12,893	11,228	1,665	14.83		
1946	14,402	12,893	1,509	11.70		
1947	15,134	14,402	732	5.08		
1949	14,747	15,134			-387	-2.56
1950	15,435	14,747	688	4.67		
1951	15,621	15,435	186	1.21		
1952	15,627	15,621	6	0.04		
1953	15,390	15,627			-237	-1.52
1954	15,987	15,390	597	3.88		
1955	17,052	15,987	1,065	6.66		
1956	17,395	17,052	343	2.01		
1957	17,957	17,395	562	3.23		
1958	18,590	17,957	633	3.53		
1959	19,026	18,590	436	2.35		
1960	20,300	19,026	1,274	6.70		
1961	21,239	20,300	939	4.63		
1962	22,626	21,239	1,387	6.53		
1963	23,856	22,626	1,230	5.44		
1964	25,423	23,856	1,567	6.57		
1965	26,915	25,423	1,492	5.87		
1966	28,106	26,915	1,191	4.43		
1967	28,504	28,106	398	1.42		
1968	29,131	28,504	627	2.20		
1969	29,838	29,131	707	2.43		
1970	31,281	29,838	1,443	4.84		

TABLE 6.14 FEMALE PRODUCTIVE WORKERS, HOURS PER YEAR
REV. FACTORY PRODUCTION, 1923-70

	---HOURS PER PRODUCTIVE WORKER---			
	ORDINARY TIME	OVER TIME	SHORT TIME	ANNUAL TOTAL
1923	2,340	10.63	5.60	2345.0
1924	2,340	16.25	13.80	2342.5
1925	2,340	15.63	11.50	2344.1
1926	2,340	17.50	12.80	2344.7
1927	2,340	17.75	11.70	2346.1
1928	2,340	19.50	0.00	2359.5
1929	2,340	20.50	13.00	2347.5
1930	2,340	11.50	56.50	2295.0
1931	2,340	16.75	92.10	2264.7
1932	2,340	30.37	69.80	2300.6
1933	2,340	30.00	49.20	2320.8
1934	2,340	33.62	24.80	2348.8
1935	2,340	42.87	22.40	2360.5
1936	2,210	41.25	4.00	2247.3
1937	2,080	40.50	9.00	2111.5
1938	2,080	34.50	11.00	2103.5
1939	2,080	66.00	2.00	2144.0
1940	2,080	82.50	2.00	2160.5
1941	2,080	93.00	1.00	2172.0
1942	2,080	115.50	2.00	2193.5
1943	2,080	135.00	2.00	2213.0
1944	2,080	130.50	0.00	2210.5
1945	2,080	102.00	0.00	2182.0
1946	2,080	76.50	0.00	2156.5
1947	2,080	61.50	0.00	2141.5
1949	2,080	64.50	0.00	2144.5
1950	2,080	64.50	0.00	2144.5
1951	2,080	58.50	0.00	2138.5
1952	2,080	46.50	0.00	2126.5
1953	2,080	54.45	0.00	2134.5
1954	2,080	69.45	0.00	2149.5
1955	2,080	61.20	0.00	2141.2
1956	2,080	56.55	0.00	2136.6
1957	2,080	63.75	0.00	2143.8
1958	2,080	69.75	0.00	2149.8
1959	2,080	67.05	0.00	2147.1
1960	2,080	79.80	0.00	2159.8
1961	2,080	82.50	0.00	2162.5
1962	2,080	78.00	0.00	2158.0
1963	2,080	88.50	0.00	2168.5
1964	2,080	93.00	0.00	2173.0
1965	2,080	100.50	0.00	2180.5
1966	2,080	97.50	0.00	2177.5
1967	2,080	82.50	0.00	2162.5
1968	2,080	87.00	0.00	2167.0
1969	2,080	109.50	0.00	2189.5
1970	2,080	97.50	0.00	2177.5

TABLE 6.15 MALE PRODUCTIVE WORKERS, HOURS PER YEAR
REV. FACTORY PRODUCTION, 1923-70

	---HOURS PER PRODUCTIVE WORKER---			
	ORDINARY TIME	OVER TIME	SHORT TIME	ANNUAL TOTAL
1923	2,496	37.70	10.90	2522.8
1924	2,496	37.50	12.70	2520.8
1925	2,496	42.37	12.50	2525.9
1926	2,496	39.87	17.10	2518.8
1927	2,496	42.25	25.70	2512.6
1928	2,496	42.75	0.00	2538.8
1929	2,496	41.00	15.30	2521.7
1930	2,496	37.75	53.50	2480.3
1931	2,496	27.62	89.60	2434.0
1932	2,496	30.75	69.40	2457.4
1933	2,496	30.63	56.10	2470.5
1934	2,496	39.87	32.60	2503.3
1935	2,496	44.12	26.00	2514.1
1936	2,314	13.50	15.00	2312.5
1937	2,080	61.50	10.00	2131.5
1938	2,080	67.50	9.00	2138.5
1939	2,080	75.00	7.00	2148.0
1940	2,080	93.00	7.00	2166.0
1941	2,080	151.50	7.00	2224.5
1942	2,080	258.00	10.00	2328.0
1943	2,080	298.50	6.00	2372.5
1944	2,080	282.00	0.00	2362.0
1945	2,080	211.50	0.00	2291.5
1946	2,080	205.50	0.00	2285.5
1947	2,080	205.50	0.00	2285.5
1949	2,080	216.00	0.00	2296.0
1950	2,080	255.00	0.00	2335.0
1951	2,080	253.50	0.00	2333.5
1952	2,080	240.00	0.00	2320.0
1953	2,080	244.35	0.00	2324.4
1954	2,080	277.50	0.00	2357.5
1955	2,080	293.25	0.00	2373.3
1956	2,080	270.60	0.00	2350.6
1957	2,080	275.55	0.00	2355.6
1958	2,080	282.30	0.00	2362.3
1959	2,080	290.10	0.00	2370.1
1960	2,080	316.50	0.00	2396.5
1961	2,080	324.00	0.00	2404.0
1962	2,080	318.00	0.00	2398.0
1963	2,080	334.50	0.00	2414.5
1964	2,080	366.00	0.00	2446.0
1965	2,080	370.50	0.00	2450.5
1966	2,080	367.50	0.00	2447.5
1967	2,080	313.50	0.00	2393.5
1968	2,080	321.00	0.00	2401.0
1969	2,080	352.50	0.00	2432.5
1970	2,080	349.50	0.00	2429.5

TABLE 6.16 ANNUAL TOTAL PRODUCTIVE HOURS WORKED BY FEMALES
REV. FACTORY PRODUCTION, 1923-70

	FEMALE		
	PRODUCTIVE WORKERS	ANNUAL HOURS	PRODUCTIVE LABOUR HOURS PER YEAR
1923	12,048	2345.0	28,252,021
1924	12,480	2342.5	29,234,900
1925	12,211	2344.1	28,624,171
1926	12,434	2344.7	29,154,000
1927	13,107	2346.1	30,749,677
1928	13,695	2359.5	32,313,353
1929	14,348	2347.5	33,681,930
1930	13,962	2295.0	32,042,790
1931	12,909	2264.7	29,234,367
1932	13,558	2300.6	31,191,128
1933	14,410	2320.8	33,442,728
1934	16,425	2348.8	38,579,369
1935	18,068	2360.5	42,648,972
1936	20,878	2247.3	46,918,086
1937	22,477	2111.5	47,460,186
1938	21,671	2103.5	45,584,949
1939	24,249	2144.0	51,989,856
1940	27,615	2160.5	59,662,208
1941	29,859	2172.0	64,853,748
1942	30,309	2193.5	66,482,792
1943	30,206	2213.0	66,845,878
1944	30,597	2210.5	67,634,669
1945	29,494	2182.0	64,355,908
1946	27,441	2156.5	59,176,517
1947	28,032	2141.5	60,030,528
1949	29,563	2144.5	63,397,854
1950	31,250	2144.5	67,015,625
1951	32,068	2138.5	68,577,418
1952	30,340	2126.5	64,518,010
1953	31,663	2134.5	67,583,090
1954	33,576	2149.5	72,169,933
1955	33,906	2141.2	72,599,527
1956	32,617	2136.6	69,687,851
1957	34,416	2143.8	73,779,300
1958	36,106	2149.8	77,618,874
1959	35,979	2147.1	77,248,712
1960	37,971	2159.8	82,009,766
1961	39,178	2162.5	84,722,425
1962	39,244	2158.0	84,688,552
1963	41,456	2168.5	89,897,336
1964	43,569	2173.0	94,675,437
1965	47,123	2180.5	102,751,702
1966	48,401	2177.5	105,393,178
1967	46,177	2162.5	99,857,763
1968	45,959	2167.0	99,593,153
1969	49,524	2189.5	108,432,798
1970	52,750	2177.5	114,863,125

TABLE 6.17 ANNUAL TOTAL PRODUCTIVE HOURS WORKED BY MALES REV. FACTORY PRODUCTION, 1923-70

	MALES		
	PRODUCTIVE WORKERS	ANNUAL HOURS	PRODUCTIVE LABOUR HOURS PER YEAR
1923	43,662	2522.8	110,150,494
1924	45,229	2520.8	114,013,263
1925	46,415	2525.9	117,238,256
1926	45,868	2518.8	115,530,942
1927	45,217	2512.6	113,609,973
1928	46,441	2538.8	117,902,089
1929	47,329	2521.7	119,349,539
1930	43,332	2480.3	107,474,193
1931	35,993	2434.0	87,607,682
1932	35,294	2457.4	86,729,711
1933	37,703	2470.5	93,146,393
1934	42,403	2503.3	106,146,158
1935	46,586	2514.1	117,122,794
1936	52,542	2312.5	121,503,375
1937	56,470	2131.5	120,365,805
1938	57,026	2138.5	121,950,101
1939	59,911	2148.0	128,688,828
1940	61,300	2166.0	132,775,800
1941	62,062	2224.5	138,056,919
1942	60,025	2328.0	139,738,200
1943	63,040	2372.5	149,562,400
1944	66,182	2362.0	156,321,884
1945	70,838	2291.5	162,325,277
1946	77,214	2285.5	176,472,597
1947	81,805	2285.5	186,965,328
1949	84,500	2296.0	194,012,000
1950	86,286	2335.0	201,477,810
1951	87,093	2333.5	203,231,516
1952	87,393	2320.0	202,751,760
1953	89,768	2324.4	208,652,251
1954	94,088	2357.5	221,812,460
1955	96,895	2373.3	229,956,059
1956	96,081	2350.6	225,847,999
1957	99,391	2355.6	234,120,470
1958	102,800	2362.3	242,844,440
1959	105,366	2370.1	249,727,957
1960	111,200	2396.5	266,490,800
1961	114,959	2404.0	276,361,436
1962	117,012	2398.0	280,594,776
1963	121,158	2414.5	292,535,991
1964	128,261	2446.0	313,726,406
1965	134,401	2450.5	329,349,651
1966	137,676	2447.5	336,962,010
1967	135,642	2393.5	324,659,127
1968	138,201	2401.0	331,820,601
1969	145,584	2432.5	354,133,080
1970	150,719	2429.5	366,171,811

TABLE 6.18 PRODUCTIVE LABOUR HOURS WORKED EACH YEAR
REV. FACTORY PRODUCTION, 1923-70

	---PRODUCTIVE LABOUR HOURS PER YEAR---			MALE PERCENT
	FEMALE	MALE	TOTAL	TOTAL
1923	28,252,021	110,150,494	138,402,515	79.6
1924	29,234,900	114,013,263	143,248,164	79.6
1925	28,624,171	117,238,256	145,862,427	80.4
1926	29,154,000	115,530,942	144,684,942	79.9
1927	30,749,677	113,609,973	144,359,651	78.7
1928	32,313,353	117,902,089	150,215,441	78.5
1929	33,681,930	119,349,539	153,031,469	78.0
1930	32,042,790	107,474,193	139,516,983	77.0
1931	29,234,367	87,607,682	116,842,049	75.0
1932	31,191,128	86,729,711	117,920,839	73.5
1933	33,442,728	93,146,393	126,589,121	73.6
1934	38,579,369	106,146,158	144,725,526	73.3
1935	42,648,972	117,122,794	159,771,766	73.3
1936	46,918,086	121,503,375	168,421,461	72.1
1937	47,460,186	120,365,805	167,825,991	71.7
1938	45,584,949	121,950,101	167,535,050	72.8
1939	51,989,856	128,688,828	180,678,684	71.2
1940	59,662,208	132,775,800	192,438,008	69.0
1941	64,853,748	138,056,919	202,910,667	68.0
1942	66,482,792	139,738,200	206,220,992	67.8
1943	66,845,878	149,562,400	216,408,278	69.1
1944	67,634,669	156,321,884	223,956,553	69.8
1945	64,355,908	162,325,277	226,681,185	71.6
1946	59,176,517	176,472,597	235,649,114	74.9
1947	60,030,528	186,965,328	246,995,856	75.7
1949	63,397,854	194,012,000	257,409,854	75.4
1950	67,015,625	201,477,810	268,493,435	75.0
1951	68,577,418	203,231,516	271,808,934	74.8
1952	64,518,010	202,751,760	267,269,770	75.9
1953	67,583,090	208,652,251	276,235,341	75.5
1954	72,169,933	221,812,460	293,982,393	75.5
1955	72,599,527	229,956,059	302,555,586	76.0
1956	69,687,851	225,847,999	295,535,850	76.4
1957	73,779,300	234,120,470	307,899,770	76.0
1958	77,618,874	242,844,440	320,463,314	75.8
1959	77,248,712	249,727,957	326,976,669	76.4
1960	82,009,766	266,490,800	348,500,566	76.5
1961	84,722,425	276,361,436	361,083,861	76.5
1962	84,688,552	280,594,776	365,283,328	76.8
1963	89,897,336	292,535,991	382,433,327	76.5
1964	94,675,437	313,726,406	408,401,843	76.8
1965	102,751,702	329,349,651	432,101,352	76.2
1966	105,393,178	336,962,010	442,355,188	76.2
1967	99,857,763	324,659,127	424,516,890	76.5
1968	99,593,153	331,820,601	431,413,754	76.9
1969	108,432,798	354,133,080	462,565,878	76.6
1970	114,863,125	366,171,811	481,034,936	76.1

TABLE 6.19 PRODUCTIVE LABOUR HOURS PER YEAR
REV. FACTORY PRODUCTION, 1923-70

	-PRODUCTIVE LABOUR HOURS-					
		PR.	-----INCREASE-----		------DECREASE------	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	138,402,515					
1924	143,248,164	138,402,515	4,845,649	3.50		
1925	145,862,427	143,248,164	2,614,264	1.82		
1926	144,684,942	145,862,427			-1,177,485	-0.81
1927	144,359,651	144,684,942			-325,291	-0.22
1928	150,215,441	144,359,651	5,855,791	4.06		
1929	153,031,469	150,215,441	2,816,028	1.87		
1930	139,516,983	153,031,469			-13,514,486	-8.83
1931	116,842,049	139,516,983			-22,674,934	-16.25
1932	117,920,839	116,842,049	1,078,790	0.92		
1933	126,589,121	117,920,839	8,668,282	7.35		
1934	144,725,526	126,589,121	18,136,406	14.33		
1935	159,771,766	144,725,526	15,046,240	10.40		
1936	168,421,461	159,771,766	8,649,694	5.41		
1937	167,825,991	168,421,461			-595,470	-0.35
1938	167,535,050	167,825,991			-290,941	-0.17
1939	180,678,684	167,535,050	13,143,635	7.85		
1940	192,438,008	180,678,684	11,759,324	6.51		
1941	202,910,667	192,438,008	10,472,660	5.44		
1942	206,220,992	202,910,667	3,310,325	1.63		
1943	216,408,278	206,220,992	10,187,287	4.94		
1944	223,956,553	216,408,278	7,548,275	3.49		
1945	226,681,185	223,956,553	2,724,633	1.22		
1946	235,649,114	226,681,185	8,967,929	3.96		
1947	246,995,856	235,649,114	11,346,742	4.82		
1949	257,409,854	246,995,856	10,413,998	4.22		
1950	268,493,435	257,409,854	11,083,582	4.31		
1951	271,808,934	268,493,435	3,315,499	1.23		
1952	267,269,770	271,808,934			-4,539,164	-1.67
1953	276,235,341	267,269,770	8,965,571	3.35		
1954	293,982,393	276,235,341	17,747,052	6.42		
1955	302,555,586	293,982,393	8,573,193	2.92		
1956	295,535,850	302,555,586			-7,019,736	-2.32
1957	307,899,770	295,535,850	12,363,920	4.18		
1958	320,463,314	307,899,770	12,563,543	4.08		
1959	326,976,669	320,463,314	6,513,355	2.03		
1960	348,500,566	326,976,669	21,523,897	6.58		
1961	361,083,861	348,500,566	12,583,295	3.61		
1962	365,283,328	361,083,861	4,199,467	1.16		
1963	382,433,327	365,283,328	17,149,999	4.69		
1964	408,401,843	382,433,327	25,968,516	6.79		
1965	432,101,352	408,401,843	23,699,509	5.80		
1966	442,355,188	432,101,352	10,253,836	2.37		
1967	424,516,890	442,355,188			-17,838,298	-4.03
1968	431,413,754	424,516,890	6,896,865	1.62		
1969	462,565,878	431,413,754	31,152,124	7.22		
1970	481,034,936	462,565,878	18,469,058	3.99		

TABLE 6.19B PRODUCTIVE LABOUR HOURS PER YEAR: ACTUAL, AVERAGE & CONSTANT REV. FACTORY PRODUCTION, 1923-70

	-PRODUCTIVE LABOUR HOURS- TOTAL	PR. TOTAL	-------CHANGE------- NO.	%	AVERAGE GROWTH RATE %	DEVN. FROM AVG.	CUMULATED GROWTH AT 2.75% YEAR
1923	138,402,515						138,402,515
1924	143,248,164	138,402,515	4,845,649	3.50	2.86	0.64	142,208,584
1925	145,862,427	143,248,164	2,614,264	1.82	2.86	-1.04	146,119,320
1926	144,684,942	145,862,427	-1,177,485	-0.81	2.86	-3.67	150,137,602
1927	144,359,651	144,684,942	-325,291	-0.22	2.86	-3.08	154,266,386
1928	150,215,441	144,359,651	5,855,791	4.06	2.86	1.20	158,508,711
1929	153,031,469	150,215,441	2,816,028	1.87	2.86	-0.99	162,867,701
1930	139,516,983	153,031,469	-13,514,486	-8.83	2.86	-11.69	167,346,563
1931	116,842,049	139,516,983	-22,674,934	-16.25	2.86	-19.11	171,948,593
1932	117,920,839	116,842,049	1,078,790	0.92	2.86	-1.94	176,677,179
1933	126,589,121	117,920,839	8,668,282	7.35	2.86	4.49	181,535,802
1934	144,725,526	126,589,121	18,136,406	14.33	2.86	11.47	186,528,036
1935	159,771,766	144,725,526	15,046,240	10.40	2.86	7.54	191,657,557
1936	168,421,461	159,771,766	8,649,694	5.41	2.86	2.55	196,928,140
1937	167,825,991	168,421,461	-595,470	-0.35	2.86	-3.21	202,343,664
1938	167,535,050	167,825,991	-290,941	-0.17	2.86	-3.03	207,908,115
1939	180,678,684	167,535,050	13,143,635	7.85	2.86	4.99	213,625,588
1940	192,438,008	180,678,684	11,759,324	6.51	2.86	3.65	219,500,292
1941	202,910,667	192,438,008	10,472,660	5.44	2.86	2.58	225,536,550
1942	206,220,992	202,910,667	3,310,325	1.63	2.86	-1.23	231,738,805
1943	216,408,278	206,220,992	10,187,287	4.94	2.86	2.08	238,111,622
1944	223,956,553	216,408,278	7,548,275	3.49	2.86	0.63	244,659,691
1945	226,681,185	223,956,553	2,724,633	1.22	2.86	-1.64	251,387,833
1946	235,649,114	226,681,185	8,967,929	3.96	2.86	1.10	258,300,998
1947	246,995,856	235,649,114	11,346,742	4.82	2.86	1.96	265,404,276

TABLE 6.19B PRODUCTIVE LABOUR HOURS PER YEAR: ACTUAL, AVERAGE & CONSTANT REV. FACTORY PRODUCTION, 1923-70

	-PRODUCTIVE LABOUR HOURS- TOTAL	PR. TOTAL	-------CHANGE------- NO.	%	AVERAGE GROWTH RATE %	DEVN. FROM AVG.	CUMULATED GROWTH AT 2.75% YEAR
1949	257,409,854	246,995,856	10,413,998	4.22	2.86	1.36	272,702,893
1950	268,493,435	257,409,854	11,083,582	4.31	2.86	1.45	280,202,223
1951	271,808,934	268,493,435	3,315,499	1.23	2.86	-1.63	287,907,784
1952	267,269,770	271,808,934	-4,539,164	-1.67	2.86	-4.53	295,825,248
1953	276,235,341	267,269,770	8,965,571	3.35	2.86	0.49	303,960,442
1954	293,982,393	276,235,341	17,747,052	6.42	2.86	3.56	312,319,355
1955	302,555,586	293,982,393	8,573,193	2.92	2.86	0.06	320,908,137
1956	295,535,850	302,555,586	-7,019,736	-2.32	2.86	-5.18	329,733,111
1957	307,899,770	295,535,850	12,363,920	4.18	2.86	1.32	338,800,771
1958	320,463,314	307,899,770	12,563,543	4.08	2.86	1.22	348,117,792
1959	326,976,669	320,463,314	6,513,355	2.03	2.86	-0.83	357,691,032
1960	348,500,566	326,976,669	21,523,897	6.58	2.86	3.72	367,527,535
1961	361,083,861	348,500,566	12,583,295	3.61	2.86	0.75	377,634,542
1962	365,283,328	361,083,861	4,199,467	1.16	2.86	-1.70	388,019,492
1963	382,433,327	365,283,328	17,149,999	4.69	2.86	1.83	398,690,028
1964	408,401,843	382,433,327	25,968,516	6.79	2.86	3.93	409,654,004
1965	432,101,352	408,401,843	23,699,509	5.80	2.86	2.94	420,919,489
1966	442,355,188	432,101,352	10,253,836	2.37	2.86	-0.49	432,494,775
1967	424,516,890	442,355,188	-17,838,298	-4.03	2.86	-6.89	444,388,381
1968	431,413,754	424,516,890	6,896,865	1.62	2.86	-1.24	456,609,062
1969	462,565,878	431,413,754	31,152,124	7.22	2.86	4.36	469,165,811
1970	481,034,936	462,565,878	18,469,058	3.99	2.86	1.13	482,067,871

APPENDIX 6.B

6.B VARIABLE CAPITAL.

To determine the volume of Variable Capital it is necessary (1) to separate the wages of productive from those of non-productive workers, (2) to establish the net (post-income tax) wage of productive workers from "gross wage payments", and (3) to extract social wage contributions from the income tax levy. The theoretical basis for these operations is given in the main text (chapter 5). Before they can attempted it is necessary to clean the data.

Variable Capital is a subset of the bourgeois aggregate Wage & Salary Payments. A consistent series for Wage & Salary Payments exists in Appendix 4. But the steps taken before must be retraced here to obtain a consistent series for wage payments to productive workers alone.

The first task is therefore to separate the wages paid to the various occupational groupings, so that they can be reaggregated into the wages of productive workers and those non-productive workers. The second is to exclude payments for those industries dropped from the factory production survey. The third problem consists in reallocating tax levies and the fourth is to reaggregate all of Wage & Salaries into marxian

aggregates.

Male and female wages differ markedly even within occupational groupings. Because different wage levels attract different levels of income tax, this inequality between males and females is important below where income tax estimations are made. For this reason it is necessary to keep the wages of male and female productive workers separate.

It is impossible to obtain all the data required directly from official sources. In 1923 & 1924 the classification system used does not distinguish between occupational groups. Data is available at the aggregate level, i.e. all industries combined for income by occupation for the entire period. At the level of industrial sectors data is available by occupation for the period 1925 to 1928 and 1951 to 1970. It is not available for the period 1929 to 1933. Data for wage earners by sex is unavailable at the level industrial sectors for the period 1929 to 1950 and for all industries combined for 1929 to 1932.

For the period from 1933 to 1970, however, the average wage for the different occupations is available. Estimates for wages paid to particular groups and within industries can be arrived at by

multiplying the number of wage earners in the industry/occupation by the average wage for the group.

To arrive at a sum approximating that paid to productive workers in Rev. Factory Production requires multiplying the number of productive workers excluded from Manufacture (Gas+Electricity+Tramways+Dairy Factories) by the average wage for productive workers and deducting this sum from Wages Paid to Wage Earners in Manufacture. This procedure needs to be done twice because male and female wages need to be treated separately.

To cover the period 1929 to 1932, where average wage levels are not available, the Nominal Wage Rate Index (NZOYB, 1939 p699) was used to estimate them. To arrive at estimates for 1923 and 1924 the estimated number of productive workers in Rev. Factory Production (Appendix 6.A, above) is multipied by the estimated annual average wage.

Insofar as the average wage in the industry excluded departs from the average for all industries combined, the estimates arrived at here will be misleading.

To estimate income tax levied on the wages of

productive workers it is easiest to divide the period into three parts: 1923 to 1945 (when income tax was charged only on incomes in excess of those earned by productive workers in factory production); 1946 to 1956 (when these workers received "gross weekly wages" and "paid" income tax at the end of each year); and from 1957 (when PAYE ("pay as you earn") Tax was introduced and income tax was "deducted" from the weekly wage before it was paid).

The first period is unproblematic since all wages received were net. For the period 1946 to 1957, a rate of tax was calculated using the annual Income and Income Tax Reports. This rate is arrived at as follows: first the total tax paid by all persons with income levels similar to the average income of Wage Earners in factory production is determined. This sum is then calculated as a percentage fraction of the total income of all these people. The ratio is then used as a tax rate against the gross annual wages of productive workers to estimate total net payments.

With the advent of PAYE tax the procedure becomes more complicated. Tax is "paid" weekly but specific exemptions (allowances for spouses, children and other dependents etc.), were allowed on the annual income. PAYE tables giving the tax rate for different levels of

weekly income and the various exemptions are published each year in NZOYB.

To arrive at the average weekly income for productive workers in factories only requires dividing the average annual wage by 52 (weeks). The level of exemption was established from data in the 1960 Yearbook. On the average wage for male productive workers 6 out of every 10 persons were entitled to wife/housekeeper exemptions; on average each person was entitled to an exemption for 1.2 children. By contrast, on the average wage for female productive workers 1 in 16 persons were entitled to the wife/housekeeper allowance and only 1 in 35 entitled to an exemption for a dependent child.

To calculate the rate of PAYE tax for male productive workers, the gross income for 10 persons was set against the sum of the tax that would be paid by 4 persons without exemptions plus 6 with exemptions for spouse and 2 dependent children. To strike the rate of PAYE tax for female productive workers, a base of 34 people is used - 1 with an exemption for spouse and child, and another for a spouse only.

The actual rates varied each year as the level of taxation and the level and range of exemptions altered.

APPENDIX 6.B

To establish the "excess tax rate", the difference between the "gross wage" and the "social wage" (= net wages of individuals plus 7.5% social security levy (18 pence in the pound, one pound equalling 240 pence) consumed by the class as a whole). The conceptual basis of this method is discussed in chapter 5 of the main text. 7.5% is subtracted from the actual tax rate. Prior to 1957, where the social security tax was levied it was separate from income tax levies. For this reason all income tax paid before this time is "excess".

Once the excess tax rate is determined, variable capital can be established by removing excess tax, the fraction of the rate, from the gross wages of productive workers.

This leaves the problem of what to do with the sum of Wage & Salary payments over and above the individual and social wage of productive workers. As discussed in the main text (chapter 5) excess tax is relocated into the fund of surplus-value and the wages of non-productive workers re-allocated to the fund of circulating constant capital.

Sources for data on wage payments to (1) all Wage

Earners, (2) Wage Earners in specific industries and (3) Wage Earners by sex are as follows: for 1925: Statistics of Factory Production 1925-26, pp 10-12; for 1926: ibid, 1926-27 Report, pp10-12; for 1927: ibid, 1927-28 Report, pp10-12; for 1928: ibid, 1928-29 Report, pp10-12; for 1951: ibid, 1951-52 Report, pp27-30; for 1952: Statistics of Industrial Production 1952-53, pp27-30; for 1953: ibid, 1953-54 Report, pp53-54; for 1954: ibid, 1954-55 Report, pp27-30; for 1955: ibid, 1955-56 Report, pp36-39; for 1956: ibid, 1956-57 Report, pp40-43; for 1957: ibid, 1957-58 Report, pp36-39; for 1958: ibid, 1958-59 Report, pp36-39; For 1959: ibid, 1959-60 Report, pp38-39; for 1960: ibid, 1960-61 Report, pp35-37; for 1961: ibid, 1961-62 Report, pp35-37; for 1962: ibid, 1962-63 Report, pp44-46; for 1963: ibid, 1963-64 Report, pp45-47; for 1964: ibid, 1964-65 Report, pp45-48; for 1965: ibid, 1965-66 Report, pp51-53; for 1966: ibid, 1966-67 Report, pp49-52; for 1967: ibid, 1967-68 Report, pp48-51; for 1968: ibid, 1968-69 Report, pp47-50; for 1969: ibid, 1969-70 Report, pp47-50; for 1970: ibid, 1970-71 Report, pp47-49.

Sources for data on average wage payments are as follows: for 1933 to 1935: Statistics of Factory Production 1942-43, p18, "Summary Of Persons Engaged And Salaries And Wages Paid 1933-34 to 1942-43"; for 1936 to 1939: Statistics of Factory & Building

APPENDIX 6.B

Production 1945-46 & 1946-47, "Summary Of Persons Engaged And Salaries And Wages Paid 1936-37 to 1945-46"; for 1940 to 1949: Statistics of Factory Production 1950-51, p25, "Summary of Persons Engaged And Salaries And Wages Paid"; for 1950 to 1958: ibid, 1960-61 Report, p33, Table 26: Summary Of Persons Engaged And Salaries And Wages Paid 1950-51 to 1960-61; for 1959 to 1970: ibid, 1970-71 Report, p35, "Factories: Summary OF Persons Engaged And Salaries And Wages Paid".

TABLE 6.20 PROPRIETORS: DRAWINGS IN LIEU OF WAGES BY SEX
N.Z. MANUFACTURE 1923-1950, FACTORY PRODUCTION 1951-1970

	PROPRIETORS					
	FEMALE		MALE		TOTAL	
	POUNDS	$000	POUNDS	$000	POUNDS	$000
1923						
1924						
1925					692,486	1,385
1926	12,215	24	701,955	1,404	714,170	1,428
1927	10,968	22	690,657	1,381	701,625	1,403
1928					632,503	1,265
1929					676,436	1,353
1930					588,289	1,177
1931					452,827	906
1932					416,582	833
1933	13,186	26	398,224	796	411,410	823
1934	15,434	31	431,175	862	446,609	893
1935	15,854	32	463,325	927	479,179	958
1936	20,142	40	534,032	1,068	554,174	1,108
1937	20,885	42	613,114	1,226	633,999	1,268
1938	21,357	43	625,367	1,251	646,724	1,293
1939	21,647	43	660,221	1,320	681,868	1,364
1940	30,545	61	675,277	1,351	705,822	1,412
1941	33,313	67	661,072	1,322	694,385	1,389
1942	38,326	77	636,044	1,272	674,370	1,349
1943	45,345	91	701,219	1,402	746,564	1,493
1944	52,087	104	781,325	1,563	833,412	1,667
1945	59,264	119	953,388	1,907	1,012,652	2,025
1946	66,501	133	1,116,573	2,233	1,183,074	2,366
1947	65,891	132	1,327,999	2,656	1,393,890	2,788
1949	57,163	114	1,311,220	2,622	1,368,383	2,737
1950	77,000	154	1,364,000	2,728	1,441,000	2,882
1951	92,000	184	1,571,000	3,142	1,663,000	3,326
1952	83,000	166	1,564,000	3,128	1,647,000	3,294
1953	102,000	204	1,605,000	3,210	1,707,000	3,414
1954	81,000	162	1,619,000	3,238	1,700,000	3,400
1955	83,000	166	1,657,000	3,314	1,740,000	3,480
1956	85,000	170	1,650,000	3,300	1,735,000	3,470
1957	86,000	172	1,570,000	3,140	1,656,000	3,312
1958	95,000	190	1,576,000	3,152	1,671,000	3,342
1959	76,000	152	1,555,000	3,110	1,631,000	3,262
1960	94,000	188	1,660,000	3,320	1,754,000	3,508
1961		170		3,636		3,806
1962		188		3,858		4,046
1963		192		3,758		3,950
1964		220		4,210		4,430
1965		235		4,313		4,548
1966		204		4,535		4,739
1967		207		3,940		4,147
1968		247		4,248		4,495
1969		266		4,399		4,665
1970		260		4,570		4,830

TABLE 6.21 SALARIES OF MANAGERS & OVERSEERS BY SEX
N.Z. MANUFACTURE 1923-1950, FACTORY PRODUCTION 1951-1970

	MANAGERS & OVERSEERS					
	FEMALE		MALE		TOTAL	
	POUNDS	$000	POUNDS	$000	POUNDS	$000
1923						
1924						
1925					1,818,914	3,638
1926	26,871	54	1,826,147	3,652	1,853,018	3,706
1927	25,594	51	1,849,917	3,700	1,875,511	3,751
1928					1,955,373	3,911
1929					2,066,018	4,132
1930					1,952,805	3,906
1931					1,752,982	3,506
1932					1,678,702	3,357
1933	26,695	53	1,619,159	3,238	1,645,854	3,292
1934	29,113	58	1,671,433	3,343	1,700,546	3,401
1935	28,982	58	1,797,180	3,594	1,826,162	3,652
1936	35,830	72	2,050,687	4,101	2,086,517	4,173
1937	38,426	77	2,258,034	4,516	2,296,460	4,593
1938	53,857	108	2,380,169	4,760	2,434,026	4,868
1939	61,609	123	2,601,500	5,203	2,663,109	5,326
1940	65,453	131	2,586,565	5,173	2,652,018	5,304
1941	81,634	163	3,093,156	6,186	3,174,790	6,350
1942	90,512	181	3,337,846	6,676	3,428,358	6,857
1943	105,285	211	3,581,771	7,164	3,687,056	7,374
1944	124,275	249	3,865,881	7,732	3,990,156	7,980
1945	128,618	257	4,324,233	8,648	4,452,851	8,906
1946	155,778	312	4,773,612	9,547	4,929,390	9,859
1947	170,245	340	5,320,220	10,640	5,490,465	10,981
1949	158,713	317	5,871,901	11,744	6,030,614	12,061
1950	192,000	384	6,649,000	13,298	6,841,000	13,682
1951	217,000	434	7,232,000	14,464	7,449,000	14,898
1952	212,000	424	7,737,000	15,474	7,949,000	15,898
1953	226,000	452	8,558,000	17,116	8,784,000	17,568
1954	253,000	506	9,674,000	19,348	9,927,000	19,854
1955	276,000	552	10,935,000	21,870	11,211,000	22,422
1956	299,000	598	11,705,000	23,410	12,004,000	24,008
1957	331,000	662	12,785,000	25,570	13,116,000	26,232
1958	357,000	714	13,724,000	27,448	14,081,000	28,162
1959	375,000	750	14,860,000	29,720	15,235,000	30,470
1960	423,000	846	16,457,000	32,914	16,880,000	33,760
1961		846		35,436		36,282
1962		842		37,172		38,014
1963		1,014		41,256		42,270
1964		1,038		45,388		46,426
1965		1,275		49,751		51,026
1966		1,402		54,907		56,309
1967		1,467		55,917		57,384
1968		1,675		59,875		61,550
1969		2,041		67,432		69,473
1970		2,392		80,156		82,548

TABLE 6.22 SALARIES & WAGES OF ACCOUNTANTS & CLERKS BY SEX
N.Z. MANUFACTURE 1923-1950, FACTORY PRODUCTION 1951-1970

	ACCOUNTANTS & CLERKS					
	FEMALE		MALE		TOTAL	
	POUNDS	$000	POUNDS	$000	POUNDS	$000
1923						
1924						
1925					1,424,978	2,850
1926	267,074	534	919,528	1,839	1,186,602	2,373
1927	284,072	568	894,335	1,789	1,178,407	2,357
1928	300,689	601	905,614	1,811	1,206,303	2,413
1929					1,796,583	3,593
1930					1,516,468	3,033
1931					1,336,758	2,674
1932					1,298,186	2,596
1933	274,108	548	1,009,011	2,018	1,283,119	2,566
1934	280,621	561	1,050,641	2,101	1,331,262	2,663
1935	322,232	644	1,288,188	2,576	1,610,420	3,221
1936	373,464	747	1,409,716	2,819	1,783,180	3,566
1937	401,923	804	1,277,709	2,555	1,679,632	3,359
1938	449,481	899	1,326,723	2,653	1,776,204	3,552
1939	509,906	1,020	1,378,967	2,758	1,888,873	3,778
1940	589,178	1,178	1,413,075	2,826	2,002,253	4,005
1941	714,573	1,429	1,383,155	2,766	2,097,728	4,195
1942	838,810	1,678	1,342,242	2,684	2,181,052	4,362
1943	909,698	1,819	1,322,782	2,646	2,232,480	4,465
1944	944,830	1,890	1,470,274	2,941	2,415,104	4,830
1945	1,026,856	2,054	1,756,518	3,513	2,783,374	5,567
1946	1,070,948	2,142	2,187,212	4,374	3,258,160	6,516
1947	1,184,033	2,368	2,492,319	4,985	3,676,352	7,353
1949	1,359,553	2,719	2,891,250	5,783	4,250,803	8,502
1950	1,595,000	3,190	3,374,000	6,748	4,969,000	9,938
1951	1,557,000	3,114	3,074,000	6,148	4,631,000	9,262
1952	1,740,000	3,480	3,381,000	6,762	5,121,000	10,242
1953	1,834,000	3,668	3,643,000	7,286	5,477,000	10,954
1954	2,077,000	4,154	4,103,000	8,206	6,180,000	12,360
1955	2,397,000	4,794	4,745,000	9,490	7,142,000	14,284
1956	2,580,000	5,160	5,097,000	10,194	7,677,000	15,354
1957	2,889,000	5,778	5,545,000	11,090	8,434,000	16,868
1958	3,094,000	6,188	6,082,000	12,164	9,176,000	18,352
1959	3,393,000	6,786	6,580,000	13,160	9,973,000	19,946
1960	3,703,000	7,406	7,453,000	14,906	11,156,000	22,312
1961		8,142		16,190		24,332
1962		8,578		16,064		24,642
1963		9,332		17,010		26,342
1964		10,774		18,648		29,422
1965		11,982		20,713		32,695
1966		13,030		22,678		35,708
1967		13,627		23,375		37,002
1968		14,918		24,618		39,536
1969		16,987		28,004		44,991
1970		20,456		32,819		53,275

TABLE 6.23 PRODUCTIVE WORKERS: WAGES BY SEX
N.Z. MANUFACTURE 1923-1950, FACTORY PRODUCTION 1951-1970

	WAGE EARNERS					
	FEMALE		MALE		TOTAL	
	POUNDS	$000	POUNDS	$000	POUNDS	$000
1923						
1924						
1925	1,150,788	2,302	11,789,715	23,579	12,940,503	25,881
1926	1,206,941	2,414	10,573,891	21,148	11,780,832	23,562
1927	1,256,156	2,512	10,289,289	20,579	11,545,445	23,091
1928	1,329,042	2,658	10,335,793	20,672	11,664,835	23,330
1929					13,082,427	26,165
1930					12,340,038	24,680
1931					9,100,368	18,201
1932					8,654,678	17,309
1933	1,181,350	2,363	7,584,767	15,170	8,766,117	17,532
1934	1,316,222	2,632	8,449,734	16,899	9,765,956	19,532
1935	1,431,194	2,862	9,497,412	18,995	10,928,606	21,857
1936	1,883,871	3,768	12,025,335	24,051	13,909,206	27,818
1937	2,186,269	4,373	14,185,227	28,370	16,371,496	32,743
1938	2,258,980	4,518	15,154,076	30,308	17,413,056	34,826
1939	2,755,647	5,511	16,471,052	32,942	19,226,699	38,453
1940	3,385,256	6,771	17,931,450	35,863	21,316,706	42,633
1941	3,994,219	7,988	19,543,177	39,086	23,537,396	47,075
1942	4,531,185	9,062	21,446,106	42,892	25,977,291	51,955
1943	4,787,498	9,575	22,979,477	45,959	27,766,975	55,534
1944	5,160,226	10,320	24,980,164	49,960	30,140,390	60,281
1945	5,319,658	10,639	27,930,578	55,861	33,250,236	66,500
1946	5,203,345	10,407	30,762,248	61,524	35,965,593	71,931
1947	5,951,563	11,903	35,620,419	71,241	41,571,982	83,144
1949	7,354,582	14,709	42,312,458	84,625	49,667,040	99,334
1950	8,811,000	17,622	48,324,000	96,648	57,135,000	114,270
1951	10,621,000	21,242	51,265,000	102,530	61,886,000	123,772
1952	9,851,000	19,702	53,915,000	107,830	63,766,000	127,532
1953	10,936,000	21,872	59,715,000	119,430	70,651,000	141,302
1954	12,567,000	25,134	68,041,000	136,082	80,608,000	161,216
1955	13,332,000	26,664	74,514,000	149,028	87,846,000	175,692
1956	13,218,000	26,436	76,313,000	152,626	89,531,000	179,062
1957	14,443,000	28,886	82,341,000	164,682	96,784,000	193,568
1958	15,955,000	31,910	87,435,000	174,870	103,390,000	206,780
1959	16,256,000	32,512	93,081,000	186,162	109,337,000	218,674
1960	18,102,000	36,204	102,684,000	205,368	120,786,000	241,572
1961		38,960		219,688		258,648
1962		39,382		229,810		269,192
1963		44,208		246,642		290,850
1964		48,770		275,660		324,430
1965		54,003		303,909		357,912
1966		57,943		328,305		386,248
1967		57,134		329,132		386,266
1968		58,350		351,398		409,748
1969		68,497		405,519		474,016
1970		84,414		492,292		576,706

TABLE 6.24 TECHNICIANS: SALARIES BY SEX
FACTORY PRODUCTION 1962-1970

	PROFESSIONAL & TECHNICAL					
	FEMALE		MALE		TOTAL	
	POUNDS	$000	POUNDS	$000	POUNDS	$000
1923						
1924						
1925						
1926						
1927						
1928						
1929						
1930						
1931						
1932						
1933						
1934						
1935						
1936						
1937						
1938						
1939						
1940						
1941						
1942						
1943						
1944						
1945						
1946						
1947						
1949						
1950						
1951						
1952						
1953						
1954						
1955						
1956						
1957						
1958						
1959						
1960						
1961						
1962		272		3,686		3,958
1963		294		4,880		5,174
1964		368		6,816		7,184
1965		489		8,361		8,850
1966		481		9,245		9,726
1967		567		10,511		11,078
1968		633		11,846		12,479
1969		768		14,357		15,125
1970		937		17,550		18,487

TABLE 6.25 WAGES OF FEMALE PRODUCTIVE WORKERS EXCLUDED FROM REV. FACTORY PRODUCTION, 1925-28 & 1951-64

	NOMINAL POUNDS					
	GAS	ELECT.	TRAM	BUTTER	OTHER MILK	TOTAL
1923						
1924						
1925	104	3,304	2,494	4,371		10,273
1926	403	1,298		3,953		5,654
1927	598	506		4,117		5,221
1928	520	633	1,696	4,151		7,000
1929						
1930						
1931						
1932						
1933						
1934						
1935						
1936						
1937						
1938						
1939						
1940						
1941						
1942						
1943						
1944						
1945						
1946						
1947						
1949						
1950						
1951				31,690		31,690
1952				33,464		33,464
1953				12,703	14,201	26,904
1954				15,296	16,350	31,646
1955				18,455	17,962	36,417
1956				20,217	17,988	38,205
1957				18,261	18,145	36,406
1958				21,854	25,082	46,936
1959				28,256	41,299	69,555
1960				17,318	34,691	52,009
1961				20,350	28,926	49,276
1962				27,000	41,000	68,000
1963				28,000	46,000	74,000
1964				31,000	65,000	96,000

TABLE 6.26 NUMBER FEMALE PRODUCTIVE WORKERS EXCLUDED REV. FACTORY PRODUCTION 1925-1950

	--FEMALE PRODUCTIVE WORKERS IN---				
	GAS	ELECT	TRAM	BUTTER & CHEESE	TOTAL
1923					
1924					
1925	1	25	16	52	94
1926	3	13	0	41	57
1927	4	5	0	42	51
1928	3	8	11	45	67
1929	4	11	10	44	69
1930	3	14	10	39	66
1931	3	8	0	47	58
1932	3	16	0	56	75
1933	4	16	0	67	87
1934	6	15	0	57	78
1935	5	17	0	67	89
1936	3	17	0	65	85
1937	3	16	0	73	92
1938	3	16	0	66	85
1939	3	21	0	64	88
1940	5	24	0	90	119
1941	4	25	0	114	143
1942	3	36	0	152	191
1943	4	42	0	174	220
1944	4	39	0	162	205
1945	3	27	0	103	133
1946	2	24	0	103	129
1947	2	37	0	92	131
1949	4	35	0	105	144
1950	3	37	0	105	145

TABLE 6.27 FEMALE PERSONS ENGAGED: AVERAGE ANNUAL WAGE BY OCCUPATION
N.Z. MANUFACTURE 1933-1970

	--PROPRIETORS---		---MANAGERS &--- ---OVERSEERS----		-ACCOUNTANTS &-- -----CLERKS-----		--WAGE EARNERS--	
	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS
1923								
1924								
1925								
1926								
1927								
1928								
1929								
1930								
1931								
1932								
1933	140	280	205	410	104	208	81	162
1934	142	284	205	410	103	206	80	160
1935	138	276	206	412	108	216	79	158
1936	168	336	211	422	119	238	90	180
1937	167	334	236	472	120	240	97	194
1938	167	334	243	486	126	252	104	208
1939	187	374	261	522	132	264	113	226
1940	235	470	268	536	141	282	122	244
1941	233	466	288	576	151	302	133	266
1942	259	518	315	630	163	326	149	298
1943	282	564	314	628	173	346	157	314
1944	322	644	339	678	181	362	168	336
1945	326	652	350	700	193	386	180	360
1946	320	640	365	730	201	402	189	378
1947	336	672	409	818	224	448	211	422

TABLE 6.27 FEMALE PERSONS ENGAGED: AVERAGE ANNUAL WAGE BY OCCUPATION
N.Z. MANUFACTURE 1933-1970

	--PROPRIETORS---		---MANAGERS &--- ---OVERSEERS----		-ACCOUNTANTS &-- -----CLERKS-----		--WAGE EARNERS--	
	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS
1949	346	692	463	926	266	532	248	496
1950	399	798	499	998	296	592	281	562
1951	459	918	525	1,050	330	660	311	622
1952	436	872	568	1,136	354	708	324	648
1953	497	994	590	1,180	388	776	344	688
1954	543	1,086	655	1,310	411	822	373	746
1955	597	1,194	683	1,366	436	872	392	784
1956	562	1,124	723	1,446	457	914	404	808
1957	621	1,242	744	1,488	477	954	419	838
1958	669	1,338	752	1,504	491	982	441	882
1959	652	1,304	793	1,586	514	1,028	450	900
1960	689	1,378	867	1,734	537	1,074	475	950
1961		1,388		1,770		1,114		992
1962		1,368		1,750		1,148		1,000
1963		1,462		1,836		1,196		1,062
1964		1,482		1,906		1,252		1,114
1965		1,657		2,021		1,304		1,142
1966		1,597		2,061		1,364		1,193
1967		1,559		2,057		1,402		1,232
1968		1,669		2,013		1,475		1,264
1969		1,726		2,216		1,604		1,379
1970		2,001		2,542		1,912		1,595

TABLE 6.28 ESTIMATES FOR MISSING VALUES:
WAGES OF FEMALE PRODUCTIVE WORKERS

		AVG.		----------ESTIMATES FOR----------			
	PEOPLE EXCL.	ANN. WAGE	WAGE INDEX	AVG. WAGE	WAGES EXCL.	--WORKERS NO.	INCL.--- WAGE
1923			1,436	85		12,048	1,027,401
1924			1,436	85		12,480	1,064,240
1925	94		1,444	86	8,061		
1926	57		1,514	90	5,125		
1927	51		1,514	90	4,585		
1928	67		1,519	90	6,044		
1929	69		1,519	90	6,224	14,348	1,294,255
1930	66		1,519	90	5,953	13,692	1,235,081
1931	58		1,431	85	4,929	12,909	1,096,991
1932	75		1,383	82	6,160	13,558	1,113,495
1933	87	81	1,364	81	7,047		
1934	78	80	1,364	81	6,240		
1935	89	79			7,031		
1936	85	90			7,650		
1937	92	97			8,924		
1938	85	104			8,840		
1939	88	113			9,944		
1940	119	122			14,518		
1941	143	133			19,019		
1942	191	149			28,459		
1943	220	157			34,540		
1944	205	168			34,440		
1945	133	180			23,940		
1946	129	189			24,381		
1947	131	211			27,641		
1949	144	248			35,712		
1950	145	281			40,745		

TABLE 6.29 WAGES FEMALE PRODUCTIVE WORKERS TO BE EXCLUDED
KNOWN & ESTIMATED VALUES COMBINED, 1925-70

	----NOMINAL POUNDS-----			------NOMINAL DOLLARS------		
	--FROM TABLE---			BUTTER &	OTHER	TOTAL
	6.25	6.28	TOTAL	CHEESE	MILK	EXCL.
1923						
1924						
1925	10,273	8,061	10,273			20,546
1926	5,654	5,125	5,654			11,308
1927	5,221	4,585	5,221			10,442
1928	7,000	6,044	7,000			14,000
1929		6,224	6,224			12,448
1930		5,953	5,953			11,907
1931		4,929	4,929			9,858
1932		6,160	6,160			12,319
1933		7,047	7,047			14,094
1934		6,240	6,240			12,480
1935		7,031	7,031			14,062
1936		7,650	7,650			15,300
1937		8,924	8,924			17,848
1938		8,840	8,840			17,680
1939		9,944	9,944			19,888
1940		14,518	14,518			29,036
1941		19,019	19,019			38,038
1942		28,459	28,459			56,918
1943		34,540	34,540			69,080
1944		34,440	34,440			68,880
1945		23,940	23,940			47,880
1946		24,381	24,381			48,762
1947		27,641	27,641			55,282
1949		35,712	35,712			71,424
1950		40,745	40,745			81,490
1951	31,690		31,690			63,380
1952	33,464		33,464			66,928
1953	26,904		26,904			53,808
1954	31,646		31,646			63,292
1955	36,417		36,417			72,834
1956	38,205		38,205			76,410
1957	36,406		36,406			72,812
1958	46,936		46,936			93,872
1959	69,555		69,555			139,110
1960	52,009		52,009			104,018
1961	49,276		49,276			98,552
1962	68,000		68,000			136,000
1963	74,000		74,000			148,000
1964	96,000		96,000			192,000
1965				63,000	130,000	193,000
1966				79,000	100,000	179,000
1967				101,000	102,000	203,000
1968				100,000	154,000	254,000
1969				106,000	95,000	201,000
1970				133,000	227,000	360,000

TABLE 6.30 FEMALE PRODUCTIVE WORKERS, GROSS ANNUAL INCOME REV. FACTORY PRODUCTION, 1923-70

	-----NOMINAL UNITS----- MANUFACTURE $000	GAS,ELECT ETC. $	FROM 6.28 $000	REV. FACTORY PRODUCTION $000
1923			2,055	2,055
1924			2,128	2,128
1925	2,302	20,546		2,281
1926	2,414	11,308		2,403
1927	2,512	10,442		2,502
1928	2,658	14,000		2,644
1929		12,448	2,589	2,589
1930		11,907	2,470	2,470
1931		9,858	2,194	2,194
1932		12,319	2,227	2,227
1933	2,363	14,094		2,349
1934	2,632	12,480		2,620
1935	2,862	14,062		2,848
1936	3,768	15,300		3,753
1937	4,373	17,848		4,355
1938	4,518	17,680		4,500
1939	5,511	19,888		5,491
1940	6,771	29,036		6,742
1941	7,988	38,038		7,950
1942	9,062	56,918		9,005
1943	9,575	69,080		9,506
1944	10,320	68,880		10,251
1945	10,639	47,880		10,591
1946	10,407	48,762		10,358
1947	11,903	55,282		11,848
1949	14,709	71,424		14,638
1950	17,622	81,490		17,541
1951	21,242	63,380		21,179
1952	19,702	66,928		19,635
1953	21,872	53,808		21,818
1954	25,134	63,292		25,071
1955	26,664	72,834		26,591
1956	26,436	76,410		26,360
1957	28,886	72,812		28,813
1958	31,910	93,872		31,816
1959	32,512	139,110		32,373
1960	36,204	104,018		36,100
1961	38,960	98,552		38,861
1962	39,382	136,000		39,246
1963	44,208	148,000		44,060
1964	48,770	192,000		48,578
1965	54,003	193,000		53,810
1966	57,943	179,000		57,764
1967	57,134	203,000		56,931
1968	58,350	254,000		58,096
1969	68,497	201,000		68,296
1970	84,414	360,000		84,054

TABLE 6.31 VARIABLE CAPITAL TO FEMALES
REV. FACTORY PRODUCTION, 1923-70

	GROSS INCOME	TAX RATE PAYE %	TAX RATE SOCIAL SEC. %	TAX RATE EXCESS TAX %	VARIABLE CAPITAL
1923	2,055			0.00	2,055
1924	2,128			0.00	2,128
1925	2,281			0.00	2,281
1926	2,403			0.00	2,403
1927	2,502			0.00	2,502
1928	2,644			0.00	2,644
1929	2,589			0.00	2,589
1930	2,470			0.00	2,470
1931	2,194			0.00	2,194
1932	2,227			0.00	2,227
1933	2,349			0.00	2,349
1934	2,620			0.00	2,620
1935	2,848			0.00	2,848
1936	3,753			0.00	3,753
1937	4,355			0.00	4,355
1938	4,500			0.00	4,500
1939	5,491			0.00	5,491
1940	6,742			0.00	6,742
1941	7,950			0.00	7,950
1942	9,005			0.00	9,005
1943	9,506			0.00	9,506
1944	10,251			0.00	10,251
1945	10,591			0.00	10,591
1946	10,358			1.92	10,159
1947	11,848			2.07	11,603
1949	14,638			0.03	14,634
1950	17,541			0.13	17,518
1951	21,179			1.20	20,925
1952	19,635			0.50	19,537
1953	21,818			0.14	21,787
1954	25,071			0.34	24,986
1955	26,591			2.64	25,889
1956	26,360			0.00	26,360
1957	28,813			0.00	28,813
1958	31,816	6.60	7.50	-0.90	31,816
1959	32,373	9.38	7.50	1.88	31,764
1960	36,100	7.40	7.50	-0.10	36,100
1961	38,861	7.40	7.50	-0.10	38,861
1962	39,246	7.40	7.50	-0.10	39,246
1963	44,060	7.27	7.50	-0.23	44,060
1964	48,578	7.27	7.50	-0.23	48,578
1965	53,810	7.27	7.50	-0.23	53,810
1966	57,764	8.37	7.50	0.87	57,261
1967	56,931	8.37	7.50	0.87	56,436
1968	58,096	9.41	7.50	1.93	56,975
1969	68,296	10.02	7.50	2.53	66,568
1970	84,054	11.49	7.50	3.98	80,709

TABLE 6.32 WAGES OF MALE PRODUCTIVE WORKERS
EXCLUDED FROM REV. FACTORY PRODUCTION, 1925-28 & 1951-64

	NOMINAL POUNDS					
	GAS	ELECT.	TRAM	BUTTER	OTHER MILK	TOTAL
1923						
1924						
1925	323,837	313,719	750,230	545,047		1,932,833
1926	349,961	340,496	738,731	574,087		2,003,275
1927	351,156	354,582	784,275	571,524		2,061,537
1928	339,884	398,447	751,966	591,469		2,081,766
1929						
1930						
1931						
1932						
1933						
1934						
1935						
1936						
1937						
1938						
1939						
1940						
1941						
1942						
1943						
1944						
1945						
1946						
1947						
1949						
1950						
1951				2,172,131		2,172,131
1952				2,427,351		2,427,351
1953				1,737,599	785,412	2,523,011
1954				1,781,207	756,458	2,537,665
1955				1,794,801	917,085	2,711,886
1956				1,886,141	1,032,428	2,918,569
1957				1,943,966	1,159,130	3,103,096
1958				1,935,781	1,242,087	3,177,868
1959				2,090,372	1,219,233	3,309,605
1960				2,251,420	1,314,237	3,565,657
1961				2,265,800	1,334,967	3,600,767
1962				2,335,000	1,296,000	3,631,000
1963				2,218,000	1,202,000	3,420,000
1964				2,467,000	1,291,000	3,758,000

TABLE 6.33 NUMBER MALE PRODUCTIVE WORKERS EXCLUDED REV. FACTORY PRODUCTION 1925-1950

	MALE PRODUCTIVE WORKERS				
	GAS	ELECT	TRAM	BUTTER & CHEESE	TOTAL
1923					
1924					
1925	1,549	1,383	3,150	2,730	8,812
1926	1,423	1,585	3,073	2,635	8,716
1927	1,362	1,364	2,902	2,764	8,392
1928	1,341	1,549	2,889	2,865	8,644
1929	1,292	1,535	2,753	2,825	8,405
1930	1,290	1,783	2,728	2,821	8,622
1931	1,285	1,812	0	2,591	5,688
1932	1,286	1,696	0	2,750	5,732
1933	1,262	1,893	0	2,938	6,093
1934	1,223	1,976	0	2,562	5,761
1935	1,262	2,303	0	2,730	6,295
1936	1,346	2,213	0	2,953	6,512
1937	1,374	2,317	0	2,840	6,531
1938	1,393	2,548	0	2,650	6,591
1939	1,344	2,682	0	2,598	6,624
1940	1,338	2,705	0	2,776	6,819
1941	1,218	2,579	0	3,149	6,946
1942	1,163	2,438	0	2,661	6,262
1943	1,208	2,525	0	2,555	6,288
1944	1,251	2,610	0	2,734	6,595
1945	1,330	2,849	0	2,766	6,945
1946	1,319	2,875	0	2,786	6,980
1947	1,288	2,931	0	2,884	7,103
1949	1,176	3,146	0	3,161	7,483
1950	1,210	3,322	0	3,240	7,772

TABLE 6.34 MALE PERSONS ENGAGED: AVERAGE ANNUAL WAGE BY OCCUPATION
N.Z. MANUFACTURE 1933-1970

	--PROPRIETORS---		---MANAGERS &--- ---OVERSEERS----		-ACCOUNTANTS &-- -----CLERKS-----		--WAGE EARNERS--	
	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS
1923								
1924								
1925								
1926								
1927								
1928								
1929								
1930								
1931								
1932								
1933	180	360	370	740	205	410	173	346
1934	189	378	378	756	210	420	175	350
1935	196	392	382	764	245	490	180	360
1936	218	436	407	814	258	516	204	408
1937	239	478	427	854	241	482	225	450
1938	247	494	439	878	251	502	238	476
1939	264	528	453	906	256	512	248	496
1940	271	542	484	968	272	544	263	526
1941	286	572	516	1,032	292	584	283	566
1942	315	630	547	1,094	325	650	324	648
1943	342	684	569	1,138	329	658	331	662
1944	360	720	586	1,172	340	680	343	686
1945	367	734	596	1,192	347	694	359	718
1946	372	744	614	1,228	368	736	365	730
1947	428	856	661	1,322	406	812	401	802

TABLE 6.34 MALE PERSONS ENGAGED: AVERAGE ANNUAL WAGE BY OCCUPATION
N.Z. MANUFACTURE 1933-1970

	--PROPRIETORS---		---MANAGERS &--- ---OVERSEERS----		-ACCOUNTANTS &-- -----CLERKS-----		--WAGE EARNERS--	
	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS	POUNDS	DOLLARS
1949	491	982	730	1,460	460	920	460	920
1950	531	1,062	797	1,594	511	1,022	514	1,028
1951	596	1,192	871	1,742	576	1,152	566	1,132
1952	628	1,256	922	1,844	626	1,252	593	1,186
1953	746	1,492	995	1,990	688	1,376	640	1,280
1954	797	1,594	1,072	2,144	733	1,466	697	1,394
1955	840	1,680	1,127	2,254	794	1,588	741	1,482
1956	891	1,782	1,179	2,358	822	1,644	764	1,528
1957	919	1,838	1,241	2,482	848	1,696	797	1,594
1958	955	1,910	1,298	2,596	880	1,760	821	1,642
1959	1,002	2,004	1,359	2,718	926	1,852	853	1,706
1960	1,045	2,090	1,424	2,848	971	1,942	893	1,786
1961		2,132		2,954		2,012		1,852
1962		2,260		3,036		2,074		1,904
1963		2,312		3,168		2,166		1,980
1964		2,450		3,358		2,280		2,092
1965		2,664		3,529		2,376		2,205
1966		2,691		3,714		2,523		2,322
1967		2,534		3,719		2,606		2,361
1968		2,760		3,894		2,707		2,478
1969		3,061		4,240		2,953		2,723
1970		3,423		4,883		3,389		3,187

TABLE 6.35 ESTIMATES FOR MISSING VALUES:
WAGES OF MALE PRODUCTIVE WORKERS

	PEOPLE EXCL.	AVG. ANN. WAGE	WAGE INDEX	ESTIMATES FOR AVG. WAGE	ESTIMATES FOR WAGES EXCL.	--WORKERS INCL. NO.	--- WAGE
1923			1,512	192		43,662	8,379,260
1924			1,533	195		45,229	8,800,541
1925	8,812		1,556	197	1,740,341		
1926	8,716		1,579	200	1,746,826		
1927	8,392		1,604	204	1,708,520		
1928	8,644		1,656	210	1,816,876		
1929	8,405		1,658	210	1,768,775	47,329	9,960,063
1930	8,622		1,665	211	1,822,101	43,332	9,157,422
1931	5,688		1,542	196	1,113,254	35,993	7,044,540
1932	5,732		1,418	180	1,031,651	35,294	6,352,247
1933	6,093	173	1,363	173	1,054,089		
1934	5,761	175	1,375	175	1,008,175		
1935	6,295	180			1,133,100		
1936	6,512	204			1,328,448		
1937	6,531	225			1,469,475		
1938	6,591	238			1,568,658		
1939	6,624	248			1,642,752		
1940	6,819	263			1,793,397		
1941	6,946	283			1,965,718		
1942	6,262	324			2,028,888		
1943	6,288	331			2,081,328		
1944	6,595	343			2,262,085		
1945	6,945	359			2,493,255		
1946	6,980	365			2,547,700		
1947	7,103	401			2,848,303		
1949	7,483	460			3,442,180		
1950	7,772	514			3,994,808		

TABLE 6.36 WAGES MALE PRODUCTIVE WORKERS TO BE EXCLUDED
KNOWN & ESTIMATED VALUES COMBINED, 1925-70

	NOMINAL POUNDS			NOMINAL DOLLARS		
	FROM TABLE					
	6.32	6.35	TOTAL	BUTTER & CHEESE	OTHER MILK	TOTAL EXCL.
1923						
1924						
1925	1,932,833	1,740,341	1,932,833			3,865,666
1926	2,003,275	1,746,826	2,003,275			4,006,550
1927	2,061,537	1,708,520	2,061,537			4,123,074
1928	2,081,766	1,816,876	2,081,766			4,163,532
1929		1,768,775	1,768,775			3,537,550
1930		1,822,101	1,822,101			3,644,202
1931		1,113,254	1,113,254			2,226,508
1932		1,031,651	1,031,651			2,063,302
1933		1,054,089	1,054,089			2,108,178
1934		1,008,175	1,008,175			2,016,350
1935		1,133,100	1,133,100			2,266,200
1936		1,328,448	1,328,448			2,656,896
1937		1,469,475	1,469,475			2,938,950
1938		1,568,658	1,568,658			3,137,316
1939		1,642,752	1,642,752			3,285,504
1940		1,793,397	1,793,397			3,586,794
1941		1,965,718	1,965,718			3,931,436
1942		2,028,888	2,028,888			4,057,776
1943		2,081,328	2,081,328			4,162,656
1944		2,262,085	2,262,085			4,524,170
1945		2,493,255	2,493,255			4,986,510
1946		2,547,700	2,547,700			5,095,400
1947		2,848,303	2,848,303			5,696,606

TABLE 6.36 WAGES MALE PRODUCTIVE WORKERS TO BE EXCLUDED
KNOWN & ESTIMATED VALUES COMBINED, 1925-70

	NOMINAL POUNDS			NOMINAL DOLLARS		
	FROM TABLE					
	6.32	6.35	TOTAL	BUTTER & CHEESE	OTHER MILK	TOTAL EXCL.
1949		3,442,180	3,442,180			6,884,360
1950		3,994,808	3,994,808			7,989,616
1951	2,172,131		2,172,131			4,344,262
1952	2,427,351		2,427,351			4,854,702
1953	2,523,011		2,523,011			5,046,022
1954	2,537,665		2,537,665			5,075,330
1955	2,711,886		2,711,886			5,423,772
1956	2,918,569		2,918,569			5,837,138
1957	3,103,096		3,103,096			6,206,192
1958	3,177,868		3,177,868			6,355,736
1959	3,309,605		3,309,605			6,619,210
1960	3,565,657		3,565,657			7,131,314
1961	3,600,767		3,600,767			7,201,534
1962	3,631,000		3,631,000			7,262,000
1963	3,420,000		3,420,000			6,840,000
1964	3,758,000		3,758,000			7,516,000
1965				4,940,000	3,040,000	7,980,000
1966				5,442,000	3,602,000	9,044,000
1967				5,435,000	3,706,000	9,141,000
1968				5,048,000	4,011,000	9,059,000
1969				5,238,000	3,698,000	8,936,000
1970				6,689,000	5,059,000	11,748,000

TABLE 6.37 MALE PRODUCTIVE WORKERS, GROSS ANNUAL INCOME REV. FACTORY PRODUCTION, 1923-70

	-----NOMINAL UNITS------ MANUFACTURE $000	GAS,ELECT ETC. $	FROM 6.35 $000	REV. FACTORY PRODUCTION $000
1923			16,759	16,759
1924			17,601	17,601
1925	23,579	3,865,666		19,713
1926	21,148	4,006,550		17,141
1927	20,579	4,123,074		16,456
1928	20,672	4,163,532		16,508
1929		3,537,550	19,920	19,920
1930		3,644,202	18,315	18,315
1931		2,226,508	14,089	14,089
1932		2,063,302	12,704	12,704
1933	15,170	2,108,178		13,062
1934	16,899	2,016,350		14,883
1935	18,995	2,266,200		16,729
1936	24,051	2,656,896		21,394
1937	28,370	2,938,950		25,431
1938	30,308	3,137,316		27,171
1939	32,942	3,285,504		29,656
1940	35,863	3,586,794		32,276
1941	39,086	3,931,436		35,155
1942	42,892	4,057,776		38,834
1943	45,959	4,162,656		41,796
1944	49,960	4,524,170		45,436
1945	55,861	4,986,510		50,874
1946	61,524	5,095,400		56,429
1947	71,241	5,696,606		65,544
1949	84,625	6,884,360		77,741
1950	96,648	7,989,616		88,658
1951	102,530	4,344,262		98,186
1952	107,830	4,854,702		102,975
1953	119,430	5,046,022		114,384
1954	136,082	5,075,330		131,007
1955	149,028	5,423,772		143,604
1956	152,626	5,837,138		146,789
1957	164,682	6,206,192		158,476
1958	174,870	6,355,736		168,514
1959	186,162	6,619,210		179,543
1960	205,368	7,131,314		198,237
1961	219,688	7,201,534		212,486
1962	229,810	7,262,000		222,548
1963	246,642	6,840,000		239,802
1964	275,660	7,516,000		268,144
1965	303,909	7,980,000		295,929
1966	328,305	9,044,000		319,261
1967	329,132	9,141,000		319,991
1968	351,398	9,059,000		342,339
1969	405,519	8,936,000		396,583
1970	492,292	11,748,000		480,544

TABLE 6.38 VARIABLE CAPITAL TO MALES
REV. FACTORY PRODUCTION, 1923-70

	GROSS INCOME	TAX RATE PAYE %	TAX RATE SOCIAL SEC. %	TAX RATE EXCESS TAX %	VARIABLE CAPITAL
1923	16,759			0.00	16,759
1924	17,601			0.00	17,601
1925	19,713			0.00	19,713
1926	17,141			0.00	17,141
1927	16,456			0.00	16,456
1928	16,508			0.00	16,508
1929	19,920			0.00	19,920
1930	18,315			0.00	18,315
1931	14,089			0.00	14,089
1932	12,704			0.00	12,704
1933	13,062			0.00	13,062
1934	14,883			0.00	14,883
1935	16,729			0.00	16,729
1936	21,394			0.00	21,394
1937	25,431			0.00	25,431
1938	27,171			0.00	27,171
1939	29,656			0.00	29,656
1940	32,276			0.00	32,276
1941	35,155			0.00	35,155
1942	38,834			0.00	38,834
1943	41,796			0.00	41,796
1944	45,436			0.00	45,436
1945	50,874			0.00	50,874
1946	56,429			2.92	54,781
1947	65,544			3.84	63,027
1949	77,741			2.85	75,525
1950	88,658			3.40	85,644
1951	98,186			3.85	94,406
1952	102,975			3.15	99,732
1953	114,384			3.41	110,483
1954	131,007			3.10	126,945
1955	143,604			4.12	137,688
1956	146,789			0.00	146,789
1957	158,476			0.00	158,476
1958	168,514	10.10	7.50	2.60	164,133
1959	179,543	12.80	7.50	5.30	170,027
1960	198,237	12.18	7.50	4.68	188,959
1961	212,486	12.18	7.50	4.68	202,542
1962	222,548	12.75	7.50	5.25	210,864
1963	239,802	11.26	7.50	3.76	230,785
1964	268,144	11.80	7.50	4.30	256,614
1965	295,929	11.80	7.50	4.30	283,204
1966	319,261	11.80	7.50	4.30	305,533
1967	319,991	11.80	7.50	4.30	306,231
1968	342,339	11.80	7.50	4.30	327,618
1969	396,583	13.59	7.50	6.09	372,431
1970	480,544	15.52	7.50	8.02	442,004

TABLE 6.39 MARXIAN REALLOCATION OF WAGE & SALARY PAYMENTS, $000(NOM)
REV. FACTORY PRODUCTION, 1923-70

	WAGES & SALARIES T 5.18	--WAGE EARNERS--- MALES T 6.38	FEMALES T 6.31	INCOME NON PROD. WKRS TO CIRC. CAPITAL	---NET & SOCIAL WAGE OF---- ----PRODUCTIVE WORKERS----- MALE	FEMALE	VAR. CAP.	EXCESS TAX TO SURPLUS VALUE	VAR. CAP.+ S-VALUE+ CIRC. CAP.
1923	24,662	16,759	2,055	5,848	16,759	2,055	18,814	0	24,662
1924	26,652	17,601	2,128	6,923	17,601	2,128	19,729	0	26,652
1925	28,754	19,713	2,281	6,760	19,713	2,281	21,994	0	28,754
1926	28,740	17,141	2,403	9,196	17,141	2,403	19,544	0	28,740
1927	28,226	16,456	2,502	9,268	16,456	2,502	18,958	0	28,226
1928	28,534	16,508	2,644	9,382	16,508	2,644	19,152	0	28,534
1929	29,622	19,920	2,589	7,113	19,920	2,589	22,509	0	29,622
1930	27,148	18,315	2,470	6,363	18,315	2,470	20,785	0	27,148
1931	21,490	14,089	2,194	5,207	14,089	2,194	16,283	0	21,490
1932	20,412	12,704	2,227	5,481	12,704	2,227	14,931	0	20,412
1933	20,486	13,062	2,349	5,075	13,062	2,349	15,411	0	20,486
1934	22,840	14,883	2,620	5,337	14,883	2,620	17,503	0	22,840
1935	25,720	16,729	2,848	6,143	16,729	2,848	19,577	0	25,720
1936	32,042	21,394	3,753	6,895	21,394	3,753	25,147	0	32,042
1937	37,022	25,431	4,355	7,236	25,431	4,355	29,786	0	37,022
1938	39,294	27,171	4,500	7,623	27,171	4,500	31,671	0	39,294
1939	43,454	29,656	5,491	8,307	29,656	5,491	35,147	0	43,454
1940	48,052	32,276	6,742	9,034	32,276	6,742	39,018	0	48,052
1941	53,014	35,155	7,950	9,909	35,155	7,950	43,105	0	53,014
1942	58,478	38,834	9,005	10,639	38,834	9,005	47,839	0	58,478
1943	62,658	41,796	9,506	11,356	41,796	9,506	51,302	0	62,658
1944	67,914	45,436	10,251	12,227	45,436	10,251	55,687	0	67,914
1945	75,412	50,874	10,591	13,947	50,874	10,591	61,465	0	75,412
1946	82,492	56,429	10,358	15,705	54,781	10,159	64,940	1,847	82,492
1947	95,764	65,544	11,848	18,372	63,027	11,603	74,630	2,762	95,764

TABLE 6.39 MARXIAN REALLOCATION OF WAGE & SALARY PAYMENTS, $000(NOM)
REV. FACTORY PRODUCTION, 1923-70

	WAGES & SALARIES T 5.18	--WAGE EARNERS--- MALES T 6.38	FEMALES T 6.31	INCOME NON PROD. WKRS TO CIRC. CAPITAL	---NET & SOCIAL WAGE OF---- ----PRODUCTIVE WORKERS----- MALE	FEMALE	VAR. CAP.	EXCESS TAX TO SURPLUS VALUE	VAR. CAP.+ S-VALUE+ CIRC. CAP.
1949	112,092	77,741	14,638	19,713	75,525	14,634	90,159	2,220	112,092
1950	128,900	88,658	17,541	22,701	85,644	17,518	103,162	3,037	128,900
1951	144,470	98,186	21,179	25,105	94,406	20,925	115,330	4,034	144,470
1952	150,672	102,975	19,635	28,062	99,732	19,537	119,268	3,342	150,672
1953	166,898	114,384	21,818	30,696	110,483	21,787	132,271	3,931	166,898
1954	190,396	131,007	25,071	34,318	126,945	24,986	151,931	4,146	190,396
1955	209,016	143,604	26,591	38,821	137,688	25,889	163,577	6,618	209,016
1956	214,580	146,789	26,360	41,431	146,789	26,360	173,149	0	214,580
1957	232,266	158,476	28,813	44,977	158,476	28,813	187,289	0	232,266
1958	248,660	168,514	31,816	48,330	164,133	31,816	195,949	4,381	248,660
1959	264,088	179,543	32,373	52,172	170,027	31,764	201,791	10,124	264,088
1960	292,408	198,237	36,100	58,071	188,959	36,100	225,059	9,277	292,408
1961	314,256	212,486	38,861	62,909	202,542	38,861	241,403	9,944	314,256
1962	330,484	222,548	39,246	68,690	210,864	39,246	250,110	11,684	330,484
1963	359,934	239,802	44,060	76,072	230,785	44,060	274,845	9,017	359,934
1964	402,534	268,144	48,578	85,812	256,614	48,578	305,192	11,530	402,534
1965	445,041	295,929	53,810	95,302	283,204	53,810	337,014	12,725	445,041
1966	481,560	319,261	57,764	104,535	305,533	57,261	362,794	14,231	481,560
1967	484,484	319,991	56,931	107,562	306,231	56,436	362,667	14,255	484,484
1968	516,327	342,339	58,096	115,892	327,618	56,975	384,593	15,842	516,327
1969	596,703	396,583	68,296	131,824	372,431	66,568	438,999	25,880	596,703
1970	720,864	480,544	84,054	156,266	442,004	80,709	522,713	41,885	720,864

TABLE 6.40 AVERAGE ANNUAL INCOME PERSONS ENGAGED EXPRESSED AS PERCENTAGE OF AVERAGE MALE PRODUCTIVE WORKER'S WAGE

	AVERAGE ANNUAL GROSS INCOME								PERCENT OF MALE WAGE EARNER						
	PROPS		MGRS & O'SRS		ACCTS & CLKS		WAGE EARNERS		PROPS		MANAGERS		ACCTS		W.EARN
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	M	F	M	F	M	F	F
1923															
1924															
1925															
1926															
1927															
1928															
1929															
1930															
1931															
1932															
1933	360	280	740	410	410	208	346	162	104.0	80.9	213.9	118.5	118.5	60.1	46.8
1934	378	284	756	410	420	206	350	160	108.0	81.1	216.0	117.1	120.0	58.9	45.7
1935	392	276	764	412	490	216	360	158	108.9	76.7	212.2	114.4	136.1	60.0	43.9
1936	436	336	814	422	516	238	408	180	106.9	82.4	199.5	103.4	126.5	58.3	44.1
1937	478	334	854	472	482	240	450	194	106.2	74.2	189.8	104.9	107.1	53.3	43.1
1938	494	334	878	486	502	252	476	208	103.8	70.2	184.5	102.1	105.5	52.9	43.7
1939	528	374	906	522	512	264	496	226	106.5	75.4	182.7	105.2	103.2	53.2	45.6
1940	542	470	968	536	544	282	526	244	103.0	89.4	184.0	101.9	103.4	53.6	46.4
1941	572	466	1,032	576	584	302	566	266	101.1	82.3	182.3	101.8	103.2	53.4	47.0
1942	630	518	1,094	630	650	326	648	298	97.2	79.9	168.8	97.2	100.3	50.3	46.0
1943	684	564	1,138	628	658	346	662	314	103.3	85.2	171.9	94.9	99.4	52.3	47.4
1944	720	644	1,172	678	680	362	686	336	105.0	93.9	170.8	98.8	99.1	52.8	49.0
1945	734	652	1,192	700	694	386	718	360	102.2	90.8	166.0	97.5	96.7	53.8	50.1
1946	744	640	1,228	730	736	402	730	378	101.9	87.7	168.2	100.0	100.8	55.1	51.8
1947	856	672	1,322	818	812	448	802	422	106.7	83.8	164.8	102.0	101.2	55.9	52.6

TABLE 6.40 AVERAGE ANNUAL INCOME PERSONS ENGAGED EXPRESSED
AS PERCENTAGE OF AVERAGE MALE PRODUCTIVE WORKER'S WAGE

	AVERAGE ANNUAL GROSS INCOME								PERCENT OF MALE WAGE EARNER						
	PROPS		MGRS & O'SRS		ACCTS & CLKS		WAGE EARNERS		PROPS		MANAGERS		ACCTS		W.EARN
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	M	F	M	F	M	F	F
1949	982	692	1,460	926	920	532	920	496	106.7	75.2	158.7	100.7	100.0	57.8	53.9
1950	1,062	798	1,594	998	1,022	592	1,028	562	103.3	77.6	155.1	97.1	99.4	57.6	54.7
1951	1,192	918	1,742	1,050	1,152	660	1,132	622	105.3	81.1	153.9	92.8	101.8	58.3	54.9
1952	1,256	872	1,844	1,136	1,252	708	1,186	648	105.9	73.5	155.5	95.8	105.6	59.7	54.6
1953	1,492	994	1,990	1,180	1,376	776	1,280	688	116.6	77.7	155.5	92.2	107.5	60.6	53.8
1954	1,594	1,086	2,144	1,310	1,466	822	1,394	746	114.3	77.9	153.8	94.0	105.2	59.0	53.5
1955	1,680	1,194	2,254	1,366	1,588	872	1,482	784	113.4	80.6	152.1	92.2	107.2	58.8	52.9
1956	1,782	1,124	2,358	1,446	1,644	914	1,528	808	116.6	73.6	154.3	94.6	107.6	59.8	52.9
1957	1,838	1,242	2,482	1,488	1,696	954	1,594	838	115.3	77.9	155.7	93.4	106.4	59.8	52.6
1958	1,910	1,338	2,596	1,504	1,760	982	1,642	882	116.3	81.5	158.1	91.6	107.2	59.8	53.7
1959	2,004	1,304	2,718	1,586	1,852	1,028	1,706	900	117.5	76.4	159.3	93.0	108.6	60.3	52.8
1960	2,090	1,378	2,848	1,734	1,942	1,074	1,786	950	117.0	77.2	159.5	97.1	108.7	60.1	53.2
1961	2,132	1,388	2,954	1,770	2,012	1,114	1,852	992	115.1	74.9	159.5	95.6	108.6	60.2	53.6
1962	2,260	1,368	3,036	1,750	2,074	1,148	1,904	1,000	118.7	71.8	159.5	91.9	108.9	60.3	52.5
1963	2,312	1,462	3,168	1,836	2,166	1,196	1,980	1,062	116.8	73.8	160.0	92.7	109.4	60.4	53.6
1964	2,450	1,482	3,358	1,906	2,280	1,252	2,092	1,114	117.1	70.8	160.5	91.1	109.0	59.8	53.3
1965	2,664	1,657	3,529	2,021	2,376	1,304	2,205	1,142	120.8	75.1	160.0	91.7	107.8	59.1	51.8
1966	2,691	1,597	3,714	2,061	2,523	1,364	2,322	1,193	115.9	68.8	159.9	88.8	108.7	58.7	51.4
1967	2,534	1,559	3,719	2,057	2,606	1,402	2,361	1,232	107.3	66.0	157.5	87.1	110.4	59.4	52.2
1968	2,760	1,669	3,894	2,013	2,707	1,475	2,478	1,264	111.4	67.4	157.1	81.2	109.2	59.5	51.0
1969	3,061	1,726	4,240	2,216	2,953	1,604	2,723	1,379	112.4	63.4	155.7	81.4	108.4	58.9	50.6
1970	3,423	2,001	4,883	2,542	3,389	1,912	3,187	1,595	107.4	62.8	153.2	79.8	106.3	60.0	50.0

TABLE 6.41 REAL AVERAGE ANNUAL WAGE, MALE PRODUCTIVE WORKERS
N.Z. MANUFACTURE, 1933-1970

	----NOMINAL DOLLARS-----			C.	CONSTANT
	GROSS WAGE	EXCESS TAX %	SOCIAL & NET WAGE	P. I.	1984 DOLLARS
1923		0.00		135	
1924		0.00		137	
1925		0.00		138	
1926		0.00		139	
1927		0.00		138	
1928		0.00		138	
1929		0.00		138	
1930		0.00		135	
1931		0.00		125	
1932		0.00		115	
1933	346	0.00	346	109	6,847
1934	350	0.00	350	111	6,801
1935	360	0.00	360	115	6,752
1936	408	0.00	408	119	7,395
1937	450	0.00	450	127	7,643
1938	476	0.00	476	131	7,838
1939	496	0.00	496	136	7,867
1940	526	0.00	526	142	7,990
1941	566	0.00	566	148	8,249
1942	648	0.00	648	152	9,196
1943	662	0.00	662	156	9,153
1944	686	0.00	686	159	9,306
1945	718	0.00	718	161	9,619
1946	730	2.92	709	162	9,436
1947	802	3.84	771	167	9,961
1949	920	2.85	894	184	10,478
1950	1,028	3.40	993	194	11,041
1951	1,132	3.85	1,088	216	10,869
1952	1,186	3.15	1,149	232	10,679
1953	1,280	3.41	1,236	243	10,975
1954	1,394	3.10	1,351	254	11,471
1955	1,482	4.12	1,421	260	11,788
1956	1,528	0.00	1,528	269	12,252
1957	1,594	0.00	1,594	275	12,503
1958	1,642	2.60	1,599	287	12,020
1959	1,706	5.30	1,616	298	11,694
1960	1,786	4.68	1,702	300	12,240
1961	1,852	4.68	1,765	306	12,444
1962	1,904	5.25	1,804	314	12,393
1963	1,980	3.76	1,906	320	12,845
1964	2,092	4.30	2,002	331	13,047
1965	2,205	4.30	2,110	343	13,270
1966	2,322	4.30	2,222	352	13,617
1967	2,361	4.30	2,259	373	13,066
1968	2,478	4.30	2,371	389	13,150
1969	2,723	6.09	2,557	409	13,486
1970	3,187	8.02	2,931	435	14,536

TABLE 6.42 REAL AVERAGE HOURLY WAGE, MALE PRODUCTIVE WORKERS
N.Z. MANUFACTURE, 1933-70

	REAL ANNUAL INCOME	-----FROM TABLE 6.15----- ORDINARY TIME	OVER TIME	SHORT TIME	PAID ANNUAL HOURS	AVERAGE HOURLY RATE
1923		2,496	37.70	10.90	2541.7	
1924		2,496	37.50	12.70	2539.6	
1925		2,496	42.37	12.50	2547.1	
1926		2,496	39.87	17.10	2538.7	
1927		2,496	42.25	25.70	2533.7	
1928		2,496	42.75	0.00	2560.1	
1929		2,496	41.00	15.30	2542.2	
1930		2,496	37.75	53.50	2499.1	
1931		2,496	27.62	89.60	2447.8	
1932		2,496	30.75	69.40	2472.7	
1933	6,847	2,496	30.63	56.10	2478.2	2.76
1934	6,801	2,496	39.87	32.60	2513.2	2.71
1935	6,752	2,496	44.12	26.00	2525.2	2.67
1936	7,395	2,314	13.50	15.00	2317.2	3.19
1937	7,643	2,080	61.50	10.00	2162.3	3.53
1938	7,838	2,080	67.50	9.00	2172.3	3.61
1939	7,867	2,080	75.00	7.00	2185.5	3.60
1940	7,990	2,080	93.00	7.00	2212.5	3.61
1941	8,249	2,080	151.50	7.00	2300.3	3.59
1942	9,196	2,080	258.00	10.00	2457.0	3.74
1943	9,153	2,080	298.50	6.00	2521.8	3.63
1944	9,306	2,080	282.00	0.00	2503.0	3.72
1945	9,619	2,080	211.50	0.00	2397.3	4.01
1946	9,436	2,080	205.50	0.00	2388.3	3.95
1947	9,961	2,080	205.50	0.00	2388.3	4.17
1949	10,478	2,080	216.00	0.00	2404.0	4.36
1950	11,041	2,080	255.00	0.00	2462.5	4.48
1951	10,869	2,080	253.50	0.00	2460.3	4.42
1952	10,679	2,080	240.00	0.00	2440.0	4.38
1953	10,975	2,080	244.35	0.00	2446.5	4.49
1954	11,471	2,080	277.50	0.00	2496.3	4.60
1955	11,788	2,080	293.25	0.00	2519.9	4.68
1956	12,252	2,080	270.60	0.00	2485.9	4.93
1957	12,503	2,080	275.55	0.00	2493.3	5.01
1958	12,020	2,080	282.30	0.00	2503.5	4.80
1959	11,694	2,080	290.10	0.00	2515.2	4.65
1960	12,240	2,080	316.50	0.00	2554.8	4.79
1961	12,444	2,080	324.00	0.00	2566.0	4.85
1962	12,393	2,080	318.00	0.00	2557.0	4.85
1963	12,845	2,080	334.50	0.00	2581.8	4.98
1964	13,047	2,080	366.00	0.00	2629.0	4.96
1965	13,270	2,080	370.50	0.00	2635.8	5.03
1966	13,617	2,080	367.50	0.00	2631.3	5.18
1967	13,066	2,080	313.50	0.00	2550.3	5.12
1968	13,150	2,080	321.00	0.00	2561.5	5.13
1969	13,486	2,080	352.50	0.00	2608.8	5.17
1970	14,536	2,080	349.50	0.00	2604.3	5.58

TABLE 6.43 REAL AVERAGE ANNUAL WAGE, FEMALE PRODUCTIVE WORKERS
N.Z. MANUFACTURE, 1933-1970

	----NOMINAL DOLLARS-----			C.	CONSTANT
	GROSS WAGE	EXCESS TAX %	SOCIAL & NET WAGE	P. I.	1984 DOLLARS
1923		0.00		135	
1924		0.00		137	
1925		0.00		138	
1926		0.00		139	
1927		0.00		138	
1928		0.00		138	
1929		0.00		138	
1930		0.00		135	
1931		0.00		125	
1932		0.00		115	
1933	162	0.00	162	109	3,206
1934	160	0.00	160	111	3,109
1935	158	0.00	158	115	2,964
1936	180	0.00	180	119	3,263
1937	194	0.00	194	127	3,295
1938	208	0.00	208	131	3,425
1939	226	0.00	226	136	3,584
1940	244	0.00	244	142	3,706
1941	266	0.00	266	148	3,877
1942	298	0.00	298	152	4,229
1943	314	0.00	314	156	4,342
1944	336	0.00	336	159	4,558
1945	360	0.00	360	161	4,823
1946	378	2.92	367	162	4,886
1947	422	3.84	406	167	5,241
1949	496	2.85	482	184	5,649
1950	562	3.40	543	194	6,036
1951	622	3.85	598	216	5,972
1952	648	3.15	628	232	5,835
1953	688	3.41	665	243	5,899
1954	746	3.10	723	254	6,139
1955	784	4.12	752	260	6,236
1956	808	0.00	808	269	6,479
1957	838	0.00	838	275	6,573
1958	882	0.00	882	287	6,629
1959	900	1.88	883	298	6,392
1960	950	0.00	950	300	6,830
1961	992	0.00	992	306	6,993
1962	1,000	0.00	1,000	314	6,869
1963	1,062	0.00	1,062	320	7,159
1964	1,114	0.00	1,114	331	7,260
1965	1,142	0.00	1,142	343	7,182
1966	1,193	0.87	1,183	352	7,247
1967	1,232	0.87	1,221	373	7,062
1968	1,264	1.93	1,240	389	6,874
1969	1,379	2.53	1,344	409	7,089
1970	1,595	3.98	1,532	435	7,594

TABLE 6.44 REAL AVERAGE HOURLY WAGE, FEMALE PRODUCTIVE WORKERS
N.Z. MANUFACTURE, 1923-70

	REAL ANNUAL INCOME	----FROM TABLE 6.14----- ORDINARY TIME	OVER TIME	SHORT TIME	PAID ANNUAL HOURS	HOURLY RATE
1923		2,340	10.63	5.60	2350.3	
1924		2,340	16.25	13.80	2350.6	
1925		2,340	15.63	11.50	2351.9	
1926		2,340	17.50	12.80	2353.5	
1927		2,340	17.75	11.70	2354.9	
1928		2,340	19.50	0.00	2369.3	
1929		2,340	20.50	13.00	2357.8	
1930		2,340	11.50	56.50	2300.8	
1931		2,340	16.75	92.10	2273.0	
1932		2,340	30.37	69.80	2315.8	
1933	3,206	2,340	30.00	49.20	2328.3	1.38
1934	3,109	2,340	33.62	24.80	2357.2	1.32
1935	2,964	2,340	42.87	22.40	2371.2	1.25
1936	3,263	2,210	41.25	4.00	2261.7	1.44
1937	3,295	2,080	40.50	9.00	2131.8	1.55
1938	3,425	2,080	34.50	11.00	2120.8	1.61
1939	3,584	2,080	66.00	2.00	2177.0	1.65
1940	3,706	2,080	82.50	2.00	2201.8	1.68
1941	3,877	2,080	93.00	1.00	2218.5	1.75
1942	4,229	2,080	115.50	2.00	2251.3	1.88
1943	4,342	2,080	135.00	2.00	2280.5	1.90
1944	4,558	2,080	130.50	0.00	2275.8	2.00
1945	4,823	2,080	102.00	0.00	2233.0	2.16
1946	4,886	2,080	76.50	0.00	2194.8	2.23
1947	5,241	2,080	61.50	0.00	2172.3	2.41
1949	5,649	2,080	64.50	0.00	2176.8	2.60
1950	6,036	2,080	64.50	0.00	2176.8	2.77
1951	5,972	2,080	58.50	0.00	2167.8	2.76
1952	5,835	2,080	46.50	0.00	2149.8	2.71
1953	5,899	2,080	54.45	0.00	2161.7	2.73
1954	6,139	2,080	69.45	0.00	2184.2	2.81
1955	6,236	2,080	61.20	0.00	2171.8	2.87
1956	6,479	2,080	56.55	0.00	2164.8	2.99
1957	6,573	2,080	63.75	0.00	2175.6	3.02
1958	6,629	2,080	69.75	0.00	2184.6	3.03
1959	6,392	2,080	67.05	0.00	2180.6	2.93
1960	6,830	2,080	79.80	0.00	2199.7	3.11
1961	6,993	2,080	82.50	0.00	2203.8	3.17
1962	6,869	2,080	78.00	0.00	2197.0	3.13
1963	7,159	2,080	88.50	0.00	2212.8	3.24
1964	7,260	2,080	93.00	0.00	2219.5	3.27
1965	7,182	2,080	100.50	0.00	2230.8	3.22
1966	7,247	2,080	97.50	0.00	2226.3	3.26
1967	7,062	2,080	82.50	0.00	2203.8	3.20
1968	6,874	2,080	87.00	0.00	2210.5	3.11
1969	7,089	2,080	109.50	0.00	2244.3	3.16
1970	7,594	2,080	97.50	0.00	2226.3	3.41

TABLE 6.45 HOURLY WAGE RATE FEMALE PRODUCTIVE WORKERS
ABSOLUTE, RELATIVE & CONSTANT CHANGE PER YEAR

	HOURLY WAGE RATE				% AVERAGE	DEVN		FEMALE RATE
	FEMALE		CHANGE		INCREASE	FROM	MALE	AS PERCENTAGE
	RATE	PR.RATE	CENTS	PERCENT	LONG BOOM	AVG.	RATE	OF MALE RATE
1923								
1924								
1925								
1926								
1927								
1928								
1929								
1930								
1931								
1932								
1933	1.38						2.76	49.83
1934	1.32	1.38	-0.06	-4.62	1.23	-5.85	2.71	48.74
1935	1.25	1.32	-0.07	-5.62	1.23	-6.85	2.67	46.74
1936	1.44	1.25	0.19	13.35	1.23	12.12	3.19	45.20
1937	1.55	1.44	0.11	6.84	1.23	5.61	3.53	43.73
1938	1.61	1.55	0.06	4.02	1.23	2.79	3.61	44.76
1939	1.65	1.61	0.04	2.22	1.23	0.99	3.60	45.74
1940	1.68	1.65	0.03	1.98	1.23	0.75	3.61	46.61
1941	1.75	1.68	0.07	3.86	1.23	2.63	3.59	48.73
1942	1.88	1.75	0.13	6.84	1.23	5.61	3.74	50.19
1943	1.90	1.88	0.02	1.25	1.23	0.02	3.63	52.45
1944	2.00	1.90	0.10	5.14	1.23	3.91	3.72	53.87
1945	2.16	2.00	0.16	7.40	1.23	6.17	4.01	53.83
1946	2.23	2.16	0.07	2.98	1.23	1.75	3.95	56.35
1947	2.41	2.23	0.18	7.58	1.23	6.35	4.17	57.85

TABLE 6.45 HOURLY WAGE RATE FEMALE PRODUCTIVE WORKERS
ABSOLUTE, RELATIVE & CONSTANT CHANGE PER YEAR

	HOURLY WAGE RATE				% AVERAGE	DEVN		FEMALE RATE
	FEMALE		CHANGE		INCREASE	FROM	MALE	AS PERCENTAGE
	RATE	PR.RATE	CENTS	PERCENT	LONG BOOM	AVG.	RATE	OF MALE RATE
1949	2.60	2.41	0.19	7.13	1.23	5.90	4.36	59.54
1950	2.77	2.60	0.17	6.24	1.23	5.01	4.48	61.85
1951	2.76	2.77	-0.01	-0.54	1.23	-1.77	4.42	62.36
1952	2.71	2.76	-0.05	-1.69	1.23	-2.92	4.38	62.01
1953	2.73	2.71	0.02	0.69	1.23	-0.54	4.49	60.83
1954	2.81	2.73	0.08	2.87	1.23	1.64	4.60	61.16
1955	2.87	2.81	0.06	2.14	1.23	0.91	4.68	61.38
1956	2.99	2.87	0.12	4.11	1.23	2.88	4.93	60.72
1957	3.02	2.99	0.03	1.03	1.23	-0.20	5.01	60.25
1958	3.03	3.02	0.01	0.47	1.23	-0.76	4.80	63.20
1959	2.93	3.03	-0.10	-3.37	1.23	-4.60	4.65	63.05
1960	3.11	2.93	0.18	5.64	1.23	4.41	4.79	64.81
1961	3.17	3.11	0.06	1.99	1.23	0.76	4.85	65.43
1962	3.13	3.17	-0.04	-1.38	1.23	-2.61	4.85	64.51
1963	3.24	3.13	0.11	3.25	1.23	2.02	4.98	65.03
1964	3.27	3.24	0.03	0.94	1.23	-0.29	4.96	65.91
1965	3.22	3.27	-0.05	-1.57	1.23	-2.80	5.03	63.94
1966	3.26	3.22	0.04	1.08	1.23	-0.15	5.18	62.90
1967	3.20	3.26	-0.06	-1.72	1.23	-2.95	5.12	62.55
1968	3.11	3.20	-0.09	-2.91	1.23	-4.14	5.13	60.57
1969	3.16	3.11	0.05	1.54	1.23	0.31	5.17	61.10
1970	3.41	3.16	0.25	7.36	1.23	6.13	5.58	61.12

TABLE 6.46 HOURLY WAGE RATE MALE PRODUCTIVE WORKERS
ABSOLUTE, RELATIVE & CONSTANT CHANGE PER YEAR

	HOURLY WAGE RATE				% AVERAGE	DEVN	CUMULATED
	MALE		CHANGE		INCREASE	FROM	INCREASE AT
	RATE	PR.RATE	CENTS	PERCENT	LONG BOOM	AVG.	1.97% PER YEAR
1923							
1924							
1925							
1926							
1927							
1928							
1929							
1930							
1931							
1932							
1933	2.76						2.76
1934	2.71	2.76	-0.05	-1.99	1.47	-3.46	2.81
1935	2.67	2.71	-0.04	-1.34	1.47	-2.81	2.87
1936	3.19	2.67	0.52	16.34	1.47	14.87	2.93
1937	3.53	3.19	0.34	9.75	1.47	8.28	2.98
1938	3.61	3.53	0.08	2.16	1.47	0.69	3.04
1939	3.60	3.61	-0.01	-0.29	1.47	-1.76	3.10
1940	3.61	3.60	0.01	0.31	1.47	-1.16	3.16
1941	3.59	3.61	-0.02	-0.66	1.47	-2.13	3.23
1942	3.74	3.59	0.15	4.08	1.47	2.61	3.29
1943	3.63	3.74	-0.11	-3.04	1.47	-4.51	3.35
1944	3.72	3.63	0.09	2.37	1.47	0.90	3.42
1945	4.01	3.72	0.29	7.29	1.47	5.82	3.49
1946	3.95	4.01	-0.06	-1.49	1.47	-2.96	3.56
1947	4.17	3.95	0.22	5.29	1.47	3.82	3.63

TABLE 6.46 HOURLY WAGE RATE MALE PRODUCTIVE WORKERS
ABSOLUTE, RELATIVE & CONSTANT CHANGE PER YEAR

	HOURLY WAGE RATE				% AVERAGE INCREASE	DEVN FROM	CUMULATED INCREASE AT
	MALE		CHANGE		LONG BOOM	AVG.	1.97% PER YEAR
	RATE	PR.RATE	CENTS	PERCENT			
1949	4.36	4.17	0.19	4.32	1.47	2.85	3.70
1950	4.48	4.36	0.12	2.76	1.47	1.29	3.77
1951	4.42	4.48	-0.06	-1.41	1.47	-2.88	3.85
1952	4.38	4.42	-0.04	-0.99	1.47	-2.46	3.92
1953	4.49	4.38	0.11	2.36	1.47	0.89	4.00
1954	4.60	4.49	0.11	2.29	1.47	0.82	4.08
1955	4.68	4.60	0.08	1.67	1.47	0.20	4.16
1956	4.93	4.68	0.25	5.05	1.47	3.58	4.24
1957	5.01	4.93	0.08	1.68	1.47	0.21	4.32
1958	4.80	5.01	-0.21	-4.35	1.47	-5.82	4.41
1959	4.65	4.80	-0.15	-3.24	1.47	-4.71	4.49
1960	4.79	4.65	0.14	2.95	1.47	1.48	4.58
1961	4.85	4.79	0.06	1.23	1.47	-0.24	4.67
1962	4.85	4.85	-0.00	-0.07	1.47	-1.54	4.77
1963	4.98	4.85	0.13	2.52	1.47	1.05	4.86
1964	4.96	4.98	-0.02	-0.35	1.47	-1.82	4.96
1965	5.03	4.96	0.07	1.48	1.47	0.01	5.05
1966	5.18	5.03	0.15	2.80	1.47	1.33	5.15
1967	5.12	5.02	0.11	2.06	1.47	0.59	5.25
1968	5.13	5.12	0.01	0.26	1.47	-1.21	5.36
1969	5.17	5.13	0.04	0.77	1.47	-0.70	5.46
1970	5.58	5.17	0.41	7.37	1.47	5.90	5.57
1986					1.47		7.61

APPENDIX 6.C

6.C CIRCULATING CONSTANT CAPITAL

The theoretical basis for the distinction between fixed and circulating constant capital is discussed in the main text (chapter 5). Circulating constant capital is defined there as (1) the wages and salaries of non productive workers, (2) the cost of raw materials and (3) such incidental costs as are incurred in keeping the production process in motion. Not all marxists will accept this definition. Shaikh, for example, argues that wages of non-productive workers derive from newly created value, i.e. they are elements of surplus-value.

Raw material costs and the wages and salaries paid to non-productive workers for Rev. Factory Production have been determined in previous appendices and are brought forward here. The first task performed here is the disaggregation and redistribution along marxist lines of the charges subsumed under the bourgeois heading Other Productive Expenses.

Other Productive Expenses include the following costs: (1) Fuels: coal, electricity, gas and coke ; (2) Insurance; (3) Depreciation: of buildings, plant and machinery; (4) Rent: paid for the use of land, buildings, plant and machinery; (5) Interest: paid on borrowed capital; (6) Repairs & Maintenance: work

performed by staff routinely employed by the establishment; and (7) a residual "catch-all" category Other which covers a number of specified items: office furniture and equipment and telephone rental charges; as well as other non-specified incidental costs incurred in production.

The theoretical basis for the reallocation of the items is given in the main text (ibid). It is as follows: Insurance, Interest and Rent are included in surplus-value; Repairs & Maintenance and Depreciation comprise the reconstitution of fixed constant capital; Fuels and Other remain as circulating constant capital.

Other determinations could undoubtedly be made. Since part of the cost of Insurance is Workers' Compensation Insurance (insurance against negligence in the case of accidents to productive and non productive employees) some of this cost might be considered part of variable capital; no doubt a part of the Repairs & Maintenance costs relates to improvements to plant and equipment and should be considered fixed capital investment; and so on.

In part the determinations made here reflect the relatively coarse nature of official reports. It is simply impossible to identify the elements more exactly

or with the degree of precision marxists desire.

Apart from Fuels and Insurance, the different sub-categories evolved gradually out of "Other": Depreciation is separately identified from 1926, Rent and Repairs & Maintenance from 1951 and Interest from 1955. The missing values for these items must be estimated. For Depreciation and Interest estimations are made in Appendix 3 Section E, Appendix 4 pp 174-179 and Appendix 5 pp 213-219). Sources for new data introduced in this appendix are the various annual reports, listed on pp271-272 above.

There are 19 tables in this set. Table 6:47 shows all the values reported in the annual reports. 6:48 to 6:51 show the exclusion of gas, etc. and dairying from Fuel and Insurance. All values are reported.
Table 6:50 shows the relative share of coal in fuel costs. The table shows the shift away from coal as a primary energy source in the post-war period consistent with Mandel's thesis that in part the long-boom was maintained by a "third technological revolution" (see chapter 5 of the main text).

Tables 6:52 to 6:60 all estimate missing values. Wherever data for specific items is missing the values will be included in Other. The values for these items

for gas, etc. and dairy factories are excluded as follows: items with missing values; Depreciation, Rent, Repairs & Maintenance, Interest; and Other are summed - "Other & Miscellaneous". This operation is repeated for the excluded industries and this second total is then subtracted from the first, see 6:52 & 6:53.

Table 6.54 shows the exclusion of Depreciation and Interest from Other & Miscellaneous leaving Rent, Repairs and Other. Table 6:55 estimates the values for rent. Reported values, from 1951, are calculated as a percentage of Other plus Rent and Repairs. The formula for the estimates is ((Rent, Repairs & Other/100)*(100-((reported Rent*100/(Rent, Repairs & Other (1951+ 1952 + 1953+ 1954+ 1955)/5))))). Table 6:56 uses the same procedure with values for Rent excluded.

Table 6:57 shows all the reported and estimated values. Table 6:58 compares 6:57 with the values calculated for Rev. Factory Production Other Productive Expenses 1. Some discrepancy is to be expected. The values in Table 6:57 are rounded off, i.e. 500 (pounds or dollars) or more counts as 1 unit while 499 counts as 0. Since there are 8 items in the set the sum of the 8 items could depart from the values in Table 6:58 by up to 8 times 499, i.e. 4 units. All entries to 1964 were reported in thousands of pounds, then converted to

dollars. The margin of error could be doubled, i.e. the difference could be 16 units.

24 of the years in the series fall within this margin. The other 23 years exceed it, some considerably. Much of the discrepancy comes from moving backwards and forwards through revised and non-revised data. In keeping with the policy outlined in the Preface to this volume, data from the annual reports is made to fit that from Historical Summaries. The difference between the values in the two tables is calculated as a percentage of Other + Rent + Depreciation + Repairs + Interest for Rev. Factory Production - "% Misc Rev Fact Prdn". The values for these items are scaled down by this percentage in Tables 6:59 & 6:60.

Table 6:61 shows the re-allocation of Other Productive Expenses. Table 6:62 compiles the annual flow of circulating capital in nominal dollars which are converted to constant 1984 dollars in 6:63. Table 6:64 shows the change in the annual flow on a year by year basis. Finally 6.65 shows the relative proportions of the elements for each year.

TABLE 6:47 ELEMENTS REPORTED AS OTHER PRODUCTIVE EXPENSES
N.Z. MANUFACTURE, 1923-70

	THOUSANDS OF NOMINAL DOLLARS								
		FUEL					REPAIRS &	INTEREST	
	TOTAL	COAL	OTHER	INSURANCE	DEPRECIATION	RENT	MAINTENANCE	PAYMENTS	OTHER
1923	17,285	2,251	949	575					13,510
1924	18,770	2,049	1,181	569					14,970
1925	19,601	1,826	1,271	605					15,899
1926	20,232	1,861	1,314	579	2,261				14,216
1927	20,737	1,932	1,394	566	2,345				14,501
1928	23,157	1,920	1,450	670	3,346				15,768
1929	24,447	1,679	1,414	672	3,727				16,955
1930	23,068	1,822	1,465	649	3,620				15,512
1931	19,612	1,537	1,003	597	3,261				13,214
1932	20,502	943	1,042	477	2,662				15,379
1933	16,515	972	1,073	422	2,690				11,357
1934	18,005	1,018	1,196	489	2,867				12,434
1935	19,214	1,144	1,221	528	2,990				13,330
1936	21,503	1,270	1,373	598	3,124				15,137
1937	21,655	1,371	1,585	857	3,260				14,582
1938	20,585	1,511	1,627	1,014	3,379				13,054
1939	22,691	1,705	1,901	1,160	3,715				14,210
1940	23,958	1,796	2,105	1,311	4,203				14,542
1941	25,626	1,967	2,296	1,620	4,520				15,222
1942	26,664	2,208	2,449	2,021	4,740				15,246
1943	29,032	2,219	2,736	2,218	5,076				16,783
1944	30,963	2,302	3,007	2,089	5,338				18,346
1945	32,557	2,338	3,052	2,190	5,671				19,305
1946	36,494	2,379	3,184	2,392	7,063				21,475
1947	42,482	2,780	3,633	2,893	8,505				24,671

TABLE 6:47 ELEMENTS REPORTED AS OTHER PRODUCTIVE EXPENSES
N.Z. MANUFACTURE, 1923-70

	THOUSANDS OF NOMINAL DOLLARS								
		FUEL							
	TOTAL	COAL	OTHER	INSURANCE	DEPRECIATION	RENT	REPAIRS & MAINTENANCE	INTEREST PAYMENTS	OTHER
1949	52,670	3,702	4,279	3,377	11,617				29,694
1950	61,056	5,399	4,876	3,911	13,623				33,247
1951	64,054	6,462	5,552	4,314	14,092	2,408	12,538		18,692
1952	70,720	6,980	5,856	4,760	15,496	2,670	13,534		21,422
1953	80,786	7,468	7,029	5,020	17,592	2,844	14,626		26,208
1954	94,986	7,958	8,295	5,300	21,286	3,234	16,510		29,674
1955	113,080	8,586	9,090	5,736	27,056	3,732	18,104	5,174	34,636
1956	119,760	9,202	10,670	6,088	28,478	4,064	19,314	6,088	35,876
1957	132,104	9,656	12,464	7,404	31,740	4,358	21,050	6,428	39,996
1958	140,642	9,758	14,844	6,752	31,472	4,932	21,896	6,754	44,232
1959	145,926	9,416	16,047	7,432	31,306	5,594	22,918	6,600	46,614
1960	157,996	9,226	17,345	8,386	33,232	6,166	25,374	7,162	51,106
1961	173,590	9,062	18,836	9,102	37,092	7,224	26,330	8,572	57,374
1962	190,282	8,922	21,313	10,004	43,468	8,646	28,024	10,714	59,190
1963	206,436	9,470	23,306	10,746	47,342	9,818	30,760	11,848	63,546
1964	231,982	9,540	25,594	11,890	53,854	11,470	33,982	12,548	73,104
1965	263,419	9,339	28,584	13,209	63,797	13,760	39,154	14,586	80,990
1966	292,557	9,725	32,063	14,659	70,195	16,038	43,371	16,569	89,937
1967	307,898	8,873	35,921	15,387	72,302	17,736	43,829	19,068	94,782
1968	334,870	9,265	39,243	16,231	75,627	19,278	47,873	21,011	106,343
1969	377,430	9,153	43,509	17,975	83,811	21,513	56,128	22,800	122,542
1970	444,062	9,505	47,502	21,260	94,026	24,768	67,666	27,481	151,854

TABLE 6.48 ANNUAL COSTS FOR COAL
REV. FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS				
	MANUFACTURE	GAS ETC.	FACTORY PRODUCTION	DAIRY FACTORIES	REV. FACTORY PRODUCTION
1923	2,251	566	1,685	300	1,385
1924	2,049	402	1,647	302	1,345
1925	1,826	302	1,524	256	1,268
1926	1,861	322	1,539	282	1,257
1927	1,932	458	1,474	258	1,216
1928	1,920	458	1,462	272	1,190
1929	1,679	186	1,493	284	1,209
1930	1,822	422	1,400	276	1,124
1931	1,537	446	1,091	250	841
1932	943	0	943	224	719
1933	972	0	972	228	744
1934	1,018	0	1,018	242	776
1935	1,144	0	1,144	254	890
1936	1,270	0	1,270	280	990
1937	1,371	0	1,371	296	1,075
1938	1,511	0	1,511	292	1,219
1939	1,705	0	1,705	326	1,379
1940	1,796	0	1,796	346	1,450
1941	1,967	0	1,967	376	1,591
1942	2,208	0	2,208	442	1,766
1943	2,219	0	2,219	440	1,779
1944	2,302	0	2,302	480	1,822
1945	2,338	0	2,338	464	1,874
1946	2,379	0	2,379	522	1,857
1947	2,780	0	2,780	584	2,196
1949	3,702	0	3,702	820	2,882
1950	5,399	0	5,399	1,452	3,947
1951	6,462	0	6,462	1,804	4,658
1952	6,980	0	6,980	2,076	4,904
1953	7,468	0	7,468	2,140	5,328
1954	7,958	0	7,958	2,044	5,914
1955	8,586	0	8,586	2,112	6,474
1956	9,202	0	9,202	2,400	6,802
1957	9,656	0	9,656	2,664	6,992
1958	9,758	0	9,758	2,666	7,092
1959	9,416	0	9,416	2,604	6,812
1960	9,226	0	9,226	2,566	6,660
1961	9,062	0	9,062	2,528	6,534
1962	8,922	0	8,922	2,600	6,322
1963	9,470	0	9,470	2,702	6,768
1964	9,540	0	9,540	2,990	6,550
1965	9,339	0	9,339	2,970	6,369
1966	9,725	0	9,725	3,003	6,722
1967	8,873	0	8,873	2,677	6,196
1968	9,265	0	9,265	2,736	6,529
1969	9,153	0	9,153	2,742	6,411
1970	9,505	0	9,505	2,812	6,693

TABLE 6:49 ANNUAL COSTS OF FUEL OTHER THAN COAL
REV. FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS				
	MANUFACTURE	GAS ETC.	FACTORY PRODUCTION	DAIRY FACTORIES	REV. FACTORY PRODUCTION
1923	949	168	781	174	607
1924	1,181	384	797	130	667
1925	1,271	338	933	190	743
1926	1,314	352	962	184	778
1927	1,394	348	1,046	194	852
1928	1,450	318	1,132	182	950
1929	1,414	320	1,094	172	922
1930	1,465	356	1,109	180	929
1931	1,003	24	979	182	797
1932	1,042	0	1,042	188	854
1933	1,073	0	1,073	178	895
1934	1,196	0	1,196	188	1,008
1935	1,221	0	1,221	180	1,041
1936	1,373	0	1,373	210	1,163
1937	1,585	0	1,585	198	1,387
1938	1,627	0	1,627	196	1,431
1939	1,901	0	1,901	206	1,695
1940	2,105	0	2,105	220	1,885
1941	2,296	0	2,296	236	2,060
1942	2,449	0	2,449	136	2,313
1943	2,736	0	2,736	142	2,594
1944	3,007	0	3,007	158	2,849
1945	3,052	0	3,052	148	2,904
1946	3,184	0	3,184	158	3,026
1947	3,633	0	3,633	148	3,485
1949	4,279	0	4,279	194	4,085
1950	4,876	0	4,876	206	4,670
1951	5,552	0	5,552	324	5,228
1952	5,856	0	5,856	286	5,570
1953	7,029	0	7,029	376	6,653
1954	8,295	0	8,295	708	7,587
1955	9,090	0	9,090	872	8,218
1956	10,670	0	10,670	828	9,842
1957	12,464	0	12,464	1,010	11,454
1958	14,844	0	14,844	996	13,848
1959	16,047	0	16,047	1,026	15,021
1960	17,345	0	17,345	1,094	16,251
1961	18,836	0	18,836	1,126	17,710
1962	21,313	0	21,313	866	20,447
1963	23,306	0	23,306	902	22,404
1964	25,594	0	25,594	1,126	24,468
1965	28,584	0	28,584	1,360	27,224
1966	32,063	0	32,063	2,262	29,801
1967	35,921	0	35,921	2,941	32,980
1968	39,243	0	39,243	3,220	36,023
1969	43,509	0	43,509	3,030	40,479
1970	47,502	0	47,502	3,477	44,025

TABLE 6.50 ANNUAL COST FOR FUELS
REV. FACTORY PRODUCTION, 1923-70

	FUELS			COAL AS PERCENT
	COAL	OTHER	TOTAL	OF TOTAL
1923	1,385	607	1,992	69.53
1924	1,345	667	2,012	66.85
1925	1,268	743	2,011	63.05
1926	1,257	778	2,035	61.77
1927	1,216	852	2,068	58.80
1928	1,190	950	2,140	55.61
1929	1,209	922	2,131	56.73
1930	1,124	929	2,053	54.75
1931	841	797	1,638	51.34
1932	719	854	1,573	45.71
1933	744	895	1,639	45.39
1934	776	1,008	1,784	43.50
1935	890	1,041	1,931	46.09
1936	990	1,163	2,153	45.98
1937	1,075	1,387	2,462	43.66
1938	1,219	1,431	2,650	46.00
1939	1,379	1,695	3,074	44.86
1940	1,450	1,885	3,335	43.48
1941	1,591	2,060	3,651	43.58
1942	1,766	2,313	4,079	43.29
1943	1,779	2,594	4,373	40.68
1944	1,822	2,849	4,671	39.01
1945	1,874	2,904	4,778	39.22
1946	1,857	3,026	4,883	38.03
1947	2,196	3,485	5,681	38.66
1949	2,882	4,085	6,967	41.37
1950	3,947	4,670	8,617	45.80
1951	4,658	5,228	9,886	47.12
1952	4,904	5,570	10,474	46.82
1953	5,328	6,653	11,981	44.47
1954	5,914	7,587	13,501	43.80
1955	6,474	8,218	14,692	44.06
1956	6,802	9,842	16,644	40.87
1957	6,992	11,454	18,446	37.91
1958	7,092	13,848	20,940	33.87
1959	6,812	15,021	21,833	31.20
1960	6,660	16,251	22,911	29.07
1961	6,534	17,710	24,244	26.95
1962	6,322	20,447	26,769	23.62
1963	6,768	22,404	29,172	23.20
1964	6,550	24,468	31,018	21.12
1965	6,369	27,224	33,593	18.96
1966	6,722	29,801	36,523	18.40
1967	6,196	32,980	39,176	15.82
1968	6,529	36,023	42,552	15.34
1969	6,411	40,479	46,890	13.67
1970	6,693	44,025	50,718	13.20

TABLE 6:52 MISCELLANEOUS OTHER PRODUCTIVE EXPENSES
N.Z. FACTORY PRODUCTION, 1923-70

	A: MANUFACTURE: FROM TABLE 6:47						B: GAS, ETC.			
	DEPRC'N	RENT	REPAIRS & MAINT	INTEREST PAYMENTS	OTHER	TOTAL A	DEPRC'N.	OTH.	TOTAL B	FACTORY PRODUCTION (A LESS B)
1923					13,510	13,510		2,196	2,196	11,314
1924					14,970	14,970		2,296	2,296	12,674
1925					15,899	15,899		3,020	3,020	12,879
1926	2,261				14,216	16,477		3,540	3,540	12,937
1927	2,345				14,501	16,846		3,690	3,690	13,156
1928	3,346				15,768	19,114	914	2,810	3,724	15,390
1929	3,727				16,955	20,682	1,078	3,148	4,226	16,456
1930	3,620				15,512	19,132	1,054	3,920	4,974	14,158
1931	3,261				13,214	16,475	916	2,940	3,856	12,619
1932	2,662				15,379	18,041	256	562	818	17,223
1933	2,690				11,357	14,047	246	542	788	13,259
1934	2,867				12,434	15,301	276	536	812	14,489
1935	2,990				13,330	16,320	230	532	762	15,558
1936	3,124				15,137	18,261	208	486	694	17,567
1937	3,260				14,582	17,842	224	450	674	17,168
1938	3,379				13,054	16,433	232	448	680	15,753
1939	3,715				14,210	17,925	224	434	658	17,267
1940	4,203				14,542	18,745	270	480	750	17,995
1941	4,520				15,222	19,742	266	441	707	19,035
1942	4,740				15,246	19,986	276	402	678	19,308
1943	5,076				16,783	21,859	268	472	740	21,119
1944	5,338				18,346	23,684	370	412	782	22,902
1945	5,671				19,305	24,976	344	418	762	24,214
1946	7,063				21,475	28,538	368	416	784	27,754
1947	8,505				24,671	33,176	378	472	850	32,326

TABLE 6:52 MISCELLANEOUS OTHER PRODUCTIVE EXPENSES
N.Z. FACTORY PRODUCTION, 1923-70

	A: MANUFACTURE: FROM TABLE 6:47						B: GAS, ETC.			FACTORY
	DEPRC'N	RENT	REPAIRS & MAINT	INTEREST PAYMENTS	OTHER	TOTAL A	DEPRC'N.	OTH.	TOTAL B	PRODUCTION (A LESS B)
1949	11,617				29,694	41,311	344	732	1,076	40,235
1950	13,623				33,247	46,870	328	802	1,130	45,740
1951	14,092	2,408	12,538		18,692	47,730	0	0	0	47,730
1952	15,496	2,670	13,534		21,422	53,122	0	0	0	53,122
1953	17,592	2,844	14,626		26,208	61,270	0	0	0	61,270
1954	21,286	3,234	16,510		33,300	74,330	0	0	0	74,330
1955	27,056	3,732	18,104	5,174	34,636	88,702	0	0	0	88,702
1956	28,478	4,064	19,314	6,088	35,876	93,820	0	0	0	93,820
1957	31,740	4,358	21,050	6,428	39,996	103,572	0	0	0	103,572
1958	31,472	4,932	21,896	6,754	44,232	109,286	0	0	0	109,286
1959	31,306	5,594	22,918	6,600	46,614	113,032	0	0	0	113,032
1960	33,232	6,166	25,374	7,162	51,106	123,040	0	0	0	123,040
1961	37,092	7,224	26,330	8,572	57,374	136,592	0	0	0	136,592
1962	43,468	8,646	28,024	10,714	59,190	150,042	0	0	0	150,042
1963	47,342	9,818	30,760	11,848	63,546	163,314	0	0	0	163,314
1964	53,854	11,470	33,982	12,548	73,104	184,958	0	0	0	184,958
1965	63,797	13,760	39,154	14,586	80,990	212,287	0	0	0	212,287
1966	70,195	16,038	43,371	16,569	89,937	236,110	0	0	0	236,110
1967	72,302	17,736	43,829	19,068	94,782	247,717	0	0	0	247,717
1968	75,627	19,278	47,873	21,011	106,343	270,132	0	0	0	270,132
1969	83,811	21,513	56,128	22,800	122,542	306,794	0	0	0	306,794
1970	94,026	24,768	67,666	27,481	151,854	365,795	0	0	0	365,795

TABLE 6:53 MISCELLANEOUS OTHER PRODUCTIVE EXPENSES
REVISED FACTORY PRODUCTION, 1923-70

		DAIRY FACTORIES						
	FACTORY PRODUCTION	DEPREC'N	RENT	REPAIRS & MAINT.	INTEREST PAYMENTS	OTHER	DAIRY TOTAL	REV. FACTORY PRODUCTION
1923	11,314					1,898	1,898	9,416
1924	12,674					2,244	2,244	10,430
1925	12,879					1,268	1,268	11,611
1926	12,937	364				798	1,162	11,775
1927	13,156	422				694	1,116	12,040
1928	15,390	416				982	1,398	13,992
1929	16,456	418				1,122	1,540	14,916
1930	14,158	402				996	1,398	12,760
1931	12,619	376				942	1,318	11,301
1932	17,223	376				5,800	6,176	11,047
1933	13,259	348				1,596	1,944	11,315
1934	14,489	334				1,746	2,080	12,409
1935	15,558	354				1,624	1,978	13,580
1936	17,567	338				1,822	2,160	15,407
1937	17,168	336				1,702	2,038	15,130
1938	15,753	348				1,690	2,038	13,715
1939	17,267	404				1,694	2,098	15,169
1940	17,995	422				1,830	2,252	15,743
1941	19,035	490				1,764	2,254	16,781
1942	19,308	444				1,754	2,198	17,110
1943	21,119	592				1,762	2,354	18,765
1944	22,902	666				1,976	2,642	20,260
1945	24,214	522				1,906	2,428	21,786
1946	27,754	1,124				2,300	3,424	24,330
1947	32,326	1,222				2,504	3,726	28,600

TABLE 6:53 MISCELLANEOUS OTHER PRODUCTIVE EXPENSES
REVISED FACTORY PRODUCTION, 1923-70

		DAIRY FACTORIES						
	FACTORY PRODUCTION	DEPREC'N	RENT	REPAIRS & MAINT.	INTEREST PAYMENTS	OTHER	DAIRY TOTAL	REV. FACTORY PRODUCTION
1949	40,235	1,568				3,144	4,712	35,523
1950	45,740	1,784				1,922	3,706	42,034
1951	47,730	1,300	0	1,338		1,076	3,714	44,016
1952	53,122	1,428	0	1,798		1,236	4,462	48,660
1953	61,270	1,540	2	1,760		1,520	4,822	56,448
1954	74,330	1,606	2	1,776	194	1,332	4,910	69,420
1955	88,702	1,846	2	1,914	230	1,366	5,358	83,344
1956	93,820	2,116	2	2,056	274	1,352	5,800	88,020
1957	103,572	2,006	4	2,142	268	1,466	5,886	97,686
1958	109,286	2,100	6	1,972	244	1,496	5,818	103,468
1959	113,032	1,992	4	1,930	242	1,522	5,690	107,342
1960	123,040	2,000	6	1,884	178	1,646	5,714	117,326
1961	136,592	2,030	6	2,338	210	1,598	6,182	130,410
1962	150,042	2,200	22	2,532	276	1,618	6,648	143,394
1963	163,314	2,202	24	2,470	220	1,772	6,688	156,626
1964	184,958	2,428	22	2,730	190	1,868	7,238	177,720
1965	212,287	2,929	29	3,165	237	1,993	8,353	203,934
1966	236,110	3,735	29	3,757	309	1,981	9,811	226,299
1967	247,717	4,164	41	4,317	555	2,466	11,543	236,174
1968	270,132	4,823	48	4,199	746	2,814	12,630	257,502
1969	306,794	4,359	42	4,635	771	2,727	12,534	294,260
1970	365,795	5,561	55	4,905	853	3,232	14,606	351,189

TABLE 6.54 RENT, REPAIRS & OTHER
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS			
	OTHER & MISCELLANEOUS	DEPRECIATION FROM TAB 4.30	INTEREST FROM TAB 4.29	RENT, REPAIRS & OTHER
1923	9,416	1,335	1,225	6,856
1924	10,430	1,399	1,358	7,673
1925	11,611	1,456	1,444	8,711
1926	11,775	1,154	1,274	9,347
1927	12,040	1,066	1,308	9,666
1928	13,992	2,016	1,428	10,548
1929	14,916	2,231	1,541	11,144
1930	12,760	2,164	1,189	9,407
1931	11,301	1,969	741	8,591
1932	11,047	2,030	1,532	7,485
1933	11,315	2,096	1,212	8,007
1934	12,409	2,253	1,385	8,771
1935	13,580	2,406	1,533	9,641
1936	15,407	2,578	1,421	11,408
1937	15,130	2,700	1,719	10,711
1938	13,715	2,799	1,697	9,219
1939	15,169	3,087	1,777	10,305
1940	15,743	3,511	1,859	10,373
1941	16,781	3,764	1,935	11,082
1942	17,110	4,020	2,040	11,050
1943	18,765	4,216	2,197	12,352
1944	20,260	4,302	2,391	13,567
1945	21,786	4,805	2,446	14,535
1946	24,330	5,571	2,598	16,161
1947	28,600	6,905	3,090	18,605
1949	35,523	9,705	7,161	18,657
1950	42,034	11,511	4,273	26,250
1951	44,016	12,792	3,091	28,133
1952	48,660	14,068	3,443	31,149
1953	56,448	16,052	3,553	36,843
1954	69,420	19,680	2,712	47,028
1955	83,344	25,210	4,946	53,188
1956	88,020	26,362	5,814	55,844
1957	97,686	29,734	6,160	61,792
1958	103,468	29,372	6,510	67,586
1959	107,342	29,314	6,362	71,666
1960	117,326	31,232	6,984	79,110
1961	130,410	35,062	8,342	87,006
1962	143,394	41,268	10,458	91,668
1963	156,626	45,140	11,628	99,858
1964	177,720	51,426	12,358	113,936
1965	203,934	60,868	14,349	128,717
1966	226,299	66,460	16,180	143,659
1967	236,174	68,138	18,513	149,523
1968	257,502	70,804	20,265	166,433
1969	294,260	79,452	22,037	192,771
1970	351,189	88,465	26,628	236,096

TABLE 6.55 RENT PAYMENTS, OTHER & REPAIRS
REVISED FACTORY PRODUCTION, 1923-70

	RENT, REPAIRS & OTHER	RENT			RENT PERCENT MISC.	ESTIM'D RENT	ESTIM'D & REPORTED	OTHER & REPAIRS
		FACTORY PROD'N	DAIRY FACTORIES	REV. FACT. PROD'N				
1923	6,856					531	531	6,325
1924	7,673					594	594	7,079
1925	8,711					675	675	8,036
1926	9,347					724	724	8,623
1927	9,666					749	749	8,917
1928	10,548					817	817	9,731
1929	11,144					863	863	10,281
1930	9,407					728	728	8,679
1931	8,591					665	665	7,926
1932	7,485					580	580	6,905
1933	8,007					620	620	7,387
1934	8,771					679	679	8,092
1935	9,641					747	747	8,894
1936	11,408					883	883	10,525
1937	10,711					829	829	9,882
1938	9,219					714	714	8,505
1939	10,305					798	798	9,507
1940	10,373					803	803	9,570
1941	11,082					858	858	10,224
1942	11,050					856	856	10,194
1943	12,352					957	957	11,395
1944	13,567					1,051	1,051	12,516
1945	14,535					1,126	1,126	13,409
1946	16,161					1,252	1,252	14,909
1947	18,605					1,441	1,441	17,164

TABLE 6.55 RENT PAYMENTS, OTHER & REPAIRS
REVISED FACTORY PRODUCTION, 1923-70

	RENT, REPAIRS & OTHER	RENT			RENT PERCENT MISC.	ESTIM'D RENT	ESTIM'D & REPORTED	OTHER & REPAIRS
		FACTORY PROD'N	DAIRY FACTORIES	REV. FACT. PROD'N				
1949	18,657					1,445	1,445	17,212
1950	26,250					2,033	2,033	24,217
1951	28,133	2,408	0	2,408	8.56	2,179	2,408	25,725
1952	31,149	2,670	0	2,670	8.57	2,412	2,670	28,479
1953	36,843	2,844	2	2,842	7.71	2,853	2,842	34,001
1954	47,028	3,234	2	3,232	6.87	3,642	3,232	43,796
1955	53,188	3,732	2	3,730	7.01	4,119	3,730	49,458
1956	55,844	4,064	2	4,062	7.27	4,325	4,062	51,782
1957	61,792	4,358	4	4,354	7.05	4,785	4,354	57,438
1958	67,586	4,932	6	4,926	7.29	5,234	4,926	62,660
1959	71,666	5,594	4	5,590	7.80	5,550	5,590	66,076
1960	79,110	6,166	6	6,160	7.79	6,126	6,160	72,950
1961	87,006	7,224	6	7,218	8.30	6,738	7,218	79,788
1962	91,668	8,646	22	8,624	9.41	7,099	8,624	83,044
1963	99,898	9,818	24	9,794	9.80	7,736	9,794	90,104
1964	113,936	11,470	22	11,448	10.05	8,823	11,448	102,488
1965	128,717	13,760	29	13,731	10.67	9,968	13,731	114,986
1966	143,659	16,038	29	16,009	11.14	11,125	16,009	127,650
1967	149,523	17,736	41	17,695	11.83	11,579	17,695	131,828
1968	166,433	19,278	48	19,230	11.55	12,889	19,230	147,203
1969	192,771	21,513	42	21,471	11.14	14,928	21,471	171,300
1970	236,096	24,768	55	24,713	10.47	18,283	24,713	211,383

TABLE 6.56 REPAIRS & MAINTENANCE AND OTHER
REVISED FACTORY PRODUCTION, 1923-70

	OTHER & REPAIRS	-----REPAIRS & MAINTENANCE----- FACTORY PROD'N	DAIRY FACTORIES	REV. FACT. PROD'N	REPAIRS PERCENT MISC.	ESTIM'D REPAIRS	ESTIM'D & REPORTED	OTHER
1923	6,325					2,391	2,391	3,934
1924	7,079					2,676	2,676	4,403
1925	8,036					3,038	3,038	4,999
1926	8,623					3,259	3,259	5,364
1927	8,917					3,371	3,371	5,547
1928	9,731					3,678	3,678	6,053
1929	10,281					3,886	3,886	6,395
1930	8,679					3,280	3,280	5,398
1931	7,926					2,996	2,996	4,930
1932	6,905					2,610	2,610	4,295
1933	7,387					2,792	2,792	4,595
1934	8,092					3,059	3,059	5,033
1935	8,894					3,362	3,362	5,532
1936	10,525					3,978	3,978	6,546
1937	9,882					3,735	3,735	6,147
1938	8,505					3,215	3,215	5,290
1939	9,507					3,593	3,593	5,914
1940	9,570					3,617	3,617	5,953
1941	10,224					3,864	3,864	6,359
1942	10,194					3,853	3,853	6,341
1943	11,395					4,307	4,307	7,088
1944	12,516					4,731	4,731	7,785
1945	13,409					5,068	5,068	8,341
1946	14,909					5,635	5,635	9,274
1947	17,164					6,488	6,488	10,676

TABLE 6.56 REPAIRS & MAINTENANCE AND OTHER
REVISED FACTORY PRODUCTION, 1923-70

	OTHER & REPAIRS	-----REPAIRS & MAINTENANCE----- FACTORY PROD'N	DAIRY FACTORIES	REV. FACT. PROD'N	REPAIRS PERCENT MISC.	ESTIM'D REPAIRS	ESTIM'D & REPORTED	OTHER
1949	17,212					6,506	6,506	10,706
1950	24,217					9,154	9,154	15,064
1951	25,725	12,538	1,338	11,200	43.54	9,724	11,200	14,525
1952	28,479	13,534	1,789	11,745	41.24	10,764	11,745	16,734
1953	34,001	14,626	1,760	12,866	37.84	12,852	12,866	21,135
1954	43,796	16,510	1,776	14,734	33.64	16,554	14,734	29,062
1955	49,458	18,104	1,914	16,190	32.73	18,694	16,190	33,268
1956	51,782	19,314	2,056	17,258	33.33	19,573	17,258	34,524
1957	57,438	21,050	2,142	18,908	32.92	21,710	18,908	38,530
1958	62,660	21,896	1,972	19,924	31.80	23,684	19,924	42,736
1959	66,076	22,918	1,930	20,988	31.76	24,975	20,988	45,088
1960	72,950	25,374	1,884	23,490	32.20	27,574	23,490	49,460
1961	79,788	26,330	2,338	23,992	30.07	30,158	23,992	55,796
1962	83,044	28,024	2,532	25,492	30.70	31,389	25,492	57,552
1963	90,064	30,760	2,470	28,290	31.41	34,042	28,290	61,774
1964	102,488	33,982	2,730	31,252	30.49	38,738	31,252	71,236
1965	114,986	39,154	3,165	35,989	31.30	43,462	35,989	78,997
1966	127,650	43,371	3,757	39,614	31.03	48,249	39,614	88,036
1967	131,828	43,829	4,317	39,512	29.97	49,828	39,512	92,316
1968	147,203	47,873	4,199	43,674	29.67	55,640	43,674	103,529
1969	171,300	56,128	4,635	51,493	30.06	64,748	51,493	119,807
1970	211,383	67,666	4,905	62,761	29.69	79,899	62,761	148,622

TABLE 6.57 ESTIMATED, CALCULATED AND REPORTED ELEMENTS TO OTHER PRODUCTIVE EXPENSES.- REV. FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS							
	FUELS	INSURANCE	DEPREC'N	RENT	REPAIRS & MAINTENANCE	INTEREST	OTHER	TOTAL
1923	1,992	515	1,335	531	2,391	1,225	3,934	11,923
1924	2,012	513	1,399	594	2,676	1,358	4,403	12,955
1925	2,011	551	1,456	675	3,038	1,444	4,999	14,173
1926	2,035	525	1,154	724	3,259	1,274	5,364	14,335
1927	2,068	508	1,066	749	3,371	1,308	5,547	14,616
1928	2,140	518	2,016	817	3,678	1,428	6,053	16,650
1929	2,131	520	2,231	863	3,886	1,541	6,395	17,567
1930	2,053	479	2,164	728	3,280	1,189	5,398	15,292
1931	1,638	439	1,969	665	2,996	741	4,930	13,378
1932	1,573	421	2,030	580	2,610	1,532	4,295	13,041
1933	1,639	366	2,096	620	2,792	1,212	4,595	13,320
1934	1,784	435	2,253	679	3,059	1,385	5,033	14,628
1935	1,931	474	2,406	747	3,362	1,533	5,532	15,985
1936	2,153	540	2,578	883	3,978	1,421	6,546	18,100
1937	2,462	789	2,700	829	3,735	1,719	6,147	18,381
1938	2,650	942	2,799	714	3,215	1,697	5,290	17,307
1939	3,074	1,090	3,087	798	3,593	1,777	5,914	19,333
1940	3,335	1,235	3,511	803	3,617	1,859	5,953	20,313
1941	3,561	1,516	3,764	858	3,864	1,935	6,359	21,858
1942	4,079	1,903	4,020	856	3,853	2,040	6,341	23,092
1943	4,373	2,108	4,216	957	4,307	2,197	7,088	25,246
1944	4,671	1,997	4,302	1,051	4,731	2,391	7,785	26,928
1945	4,778	2,094	4,805	1,126	5,068	2,446	8,341	28,658
1946	4,883	2,292	5,571	1,252	5,635	2,598	9,274	31,505
1947	5,681	2,781	6,905	1,441	6,488	3,090	10,676	37,062

TABLE 6.57 ESTIMATED, CALCULATED AND REPORTED ELEMENTS TO OTHER PRODUCTIVE EXPENSES.- REV. FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS							
	FUELS	INSURANCE	DEPREC'N	RENT	REPAIRS & MAINTENANCE	INTEREST	OTHER	TOTAL
1949	6,967	3,249	9,705	1,445	6,506	7,161	10,706	45,739
1950	8,617	3,773	11,511	2,033	9,154	4,273	15,064	54,424
1951	9,886	4,220	12,792	2,408	11,200	3,091	14,525	58,122
1952	10,474	4,652	14,068	2,670	11,745	3,443	16,734	63,786
1953	11,981	4,890	16,052	2,842	12,866	3,553	21,135	73,319
1954	13,501	5,182	19,680	3,232	14,734	2,712	29,062	88,103
1955	14,692	5,618	25,210	3,730	16,190	4,946	33,268	103,654
1956	16,644	5,966	26,362	4,062	17,258	5,814	34,524	110,630
1957	18,446	7,292	29,734	4,354	18,908	6,160	38,530	123,424
1958	20,940	6,648	29,372	4,926	19,924	6,510	42,736	131,056
1959	21,833	7,318	29,314	5,590	20,988	6,362	45,088	136,493
1960	22,911	8,262	31,232	6,160	23,490	6,984	49,460	148,499
1961	24,244	8,992	35,062	7,218	23,992	8,342	55,796	163,646
1962	26,769	9,892	41,268	8,624	25,492	10,458	57,552	180,055
1963	29,172	10,626	45,140	9,794	28,290	11,628	61,774	196,424
1964	31,018	11,762	51,426	11,448	31,252	12,358	71,236	220,500
1965	33,593	13,064	60,868	13,731	35,989	14,349	78,997	250,591
1966	36,523	14,500	66,460	16,009	39,614	16,180	88,036	277,322
1967	39,176	15,209	68,138	17,695	39,512	18,513	92,316	290,559
1968	42,552	16,016	70,804	19,230	43,674	20,265	103,529	316,070
1969	46,890	17,745	79,452	21,471	51,223	22,037	120,077	358,895
1970	50,718	20,985	88,465	24,713	62,761	26,628	148,622	422,892

TABLE 6.58 MARGIN OF OVER ESTIMATES IN MISCELLANEOUS OTHER PRODUCTIVE EXPENSES

	-OTHER PROD. EXPS.- A: TOTAL TAB 6.57	B: TOTAL TAB 4.26	A LESS B	MISC. REV. FACTORY PROD'N	A LESS B % MISC REV FACT PRDN
1923	11,923	11,918	5	9,416	0.05
1924	12,955	12,954	1	10,430	0.01
1925	14,173	14,172	1	11,611	0.01
1926	14,335	14,338	-3	11,775	-0.03
1927	14,616	14,628	-12	12,040	-0.10
1928	16,650	16,594	56	13,992	0.40
1929	17,567	17,558	9	14,916	0.06
1930	15,292	15,290	2	12,760	0.02
1931	13,378	13,372	6	11,301	0.05
1932	13,041	13,912	-871	11,047	-7.88
1933	13,320	13,018	302	11,315	2.67
1934	14,628	14,240	388	12,409	3.13
1935	15,985	15,520	465	13,580	3.42
1936	18,100	17,560	540	15,407	3.50
1937	18,381	17,806	575	15,130	3.80
1938	17,307	16,742	565	13,715	4.12
1939	19,333	18,730	603	15,169	3.98
1940	20,313	20,316	-3	15,743	-0.02
1941	21,858	21,946	-88	16,781	-0.52
1942	23,092	23,092	0	17,110	0.00
1943	25,246	25,244	2	18,765	0.01
1944	26,928	26,830	98	20,260	0.48
1945	28,658	28,654	4	21,786	0.02
1946	31,505	31,506	-1	24,330	-0.00
1947	37,062	37,058	4	28,600	0.01
1949	45,739	45,740	-1	35,523	-0.00
1950	54,424	54,364	60	42,034	0.14
1951	58,122	58,120	2	44,016	0.00
1952	63,786	63,788	-2	48,660	-0.00
1953	73,319	73,318	1	56,448	0.00
1954	88,103	87,220	883	69,420	1.27
1955	103,654	104,620	-966	83,344	-1.16
1956	110,630	110,652	-22	88,020	-0.02
1957	123,424	122,434	990	97,686	1.01
1958	131,056	131,074	-18	103,468	-0.02
1959	136,493	135,522	971	107,342	0.90
1960	148,499	148,498	1	117,326	0.00
1961	163,646	163,642	4	130,410	0.00
1962	180,055	180,080	-25	143,394	-0.02
1963	196,424	195,900	524	156,626	0.33
1964	220,500	220,496	4	177,720	0.00
1965	250,591	250,489	102	203,934	0.05
1966	277,322	277,220	102	226,299	0.05
1967	290,559	290,567	-8	236,174	-0.00
1968	316,070	316,069	1	257,502	0.00
1969	358,895	358,947	-52	294,260	-0.02
1970	422,892	422,891	1	351,189	0.00

TABLE 6:59 RE-ESTIMATES FOR RENT, REPAIRS, INTEREST & OTHER
REVISED FACTORY PRODUCTION, 1923-70

	-----RENT------		---REPAIRS &--- --MAINTENANCE--		---INTEREST----		------OTHER------		PERCENT TO REVALUE
	EST.1	EST.2	EST.1	EST.2	EST.1	EST.2	EST.1	EST.2	
1923	531	531	2,391	2,389	1,225	1,224	3,934	3,932	0.05
1924	594	594	2,676	2,675	1,358	1,358	4,403	4,403	0.01
1925	675	675	3,038	3,037	1,444	1,444	4,999	4,998	0.01
1926	724	724	3,259	3,260	1,274	1,274	5,364	5,365	-0.03
1927	749	749	3,371	3,374	1,308	1,309	5,547	5,552	-0.10
1928	817	814	3,678	3,663	1,428	1,422	6,053	6,029	0.40
1929	863	862	3,886	3,884	1,541	1,540	6,395	6,391	0.06
1930	728	728	3,280	3,280	1,189	1,189	5,398	5,397	0.02
1931	665	665	2,996	2,994	741	741	4,930	4,927	0.05
1932	580	625	2,610	2,816	1,532	1,653	4,295	4,634	-7.88
1933	620	604	2,792	2,718	1,212	1,180	4,595	4,472	2.67
1934	679	658	3,059	2,963	1,385	1,342	5,033	4,876	3.13
1935	747	721	3,362	3,247	1,533	1,481	5,532	5,343	3.42
1936	883	852	3,978	3,839	1,421	1,371	6,546	6,317	3.50
1937	829	798	3,735	3,593	1,719	1,654	6,147	5,913	3.80
1938	714	685	3,215	3,082	1,697	1,627	5,290	5,072	4.12
1939	798	766	3,593	3,451	1,777	1,706	5,914	5,678	3.98
1940	803	803	3,617	3,618	1,859	1,859	5,953	5,954	-0.02
1941	858	863	3,864	3,885	1,935	1,945	6,359	6,393	-0.52
1942	856	856	3,853	3,853	2,040	2,040	6,341	6,341	0.00
1943	957	956	4,307	4,307	2,197	2,197	7,088	7,087	0.01
1944	1,051	1,046	4,731	4,708	2,391	2,379	7,785	7,748	0.48
1945	1,126	1,125	5,068	5,068	2,446	2,446	8,341	8,339	0.02
1946	1,252	1,252	5,635	5,636	2,598	2,598	9,274	9,274	-0.00
1947	1,441	1,441	6,488	6,487	3,090	3,090	10,676	10,675	0.01

TABLE 6:59 RE-ESTIMATES FOR RENT, REPAIRS, INTEREST & OTHER REVISED FACTORY PRODUCTION, 1923-70

	RENT		REPAIRS & MAINTENANCE		INTEREST		OTHER		PERCENT TO REVALUE
	EST.1	EST.2	EST.1	EST.2	EST.1	EST.2	EST.1	EST.2	
1949	1,445	1,445	6,506	6,506	7,161	7,161	10,706	10,707	-0.00
1950	2,033	2,030	9,154	9,141	4,273	4,267	15,064	15,042	0.14
1951	2,408	2,408	11,200	11,199	3,091	3,091	14,525	14,524	0.00
1952	2,670	2,670	11,745	11,745	3,443	3,443	16,734	16,735	-0.00
1953	2,842	2,842	12,866	12,866	3,553	3,553	21,135	21,135	0.00
1954	3,232	3,191	14,734	14,547	2,712	2,678	29,062	28,692	1.27
1955	3,730	3,773	16,190	16,378	4,946	5,003	33,268	33,654	-1.16
1956	4,062	4,063	17,258	17,262	5,814	5,815	34,524	34,533	-0.02
1957	4,354	4,310	18,908	18,716	6,160	6,098	38,530	38,140	1.01
1958	4,926	4,927	19,924	19,927	6,510	6,511	42,736	42,743	-0.02
1959	5,590	5,539	20,988	20,798	6,362	6,304	45,088	44,680	0.90
1960	6,160	6,160	23,490	23,490	6,984	6,984	49,460	49,460	0.00
1961	7,218	7,218	23,992	23,991	8,342	8,342	55,796	55,794	0.00
1962	8,624	8,626	25,492	25,496	10,458	10,460	57,552	57,562	-0.02
1963	9,794	9,761	28,290	28,195	11,628	11,589	61,774	61,567	0.33
1964	11,448	11,448	31,252	31,251	12,358	12,358	71,236	71,234	0.00
1965	13,731	13,724	35,989	35,971	14,349	14,342	78,997	78,957	0.05
1966	16,009	16,002	39,614	39,596	16,180	16,173	88,036	87,996	0.05
1967	17,695	17,696	39,512	39,513	18,513	18,514	92,316	92,319	-0.00
1968	19,230	19,230	43,674	43,674	20,265	20,265	103,529	103,529	0.00
1969	21,471	21,475	51,223	51,232	22,037	22,041	120,077	120,098	-0.02
1970	24,713	24,713	62,761	62,761	26,628	26,628	148,622	148,622	0.00

TABLE 6:60 RE-ESTIMATION OF DEPRECIATION
REV. FACTORY PRODUCTION, 1923-70

	-DEPRECIATION-- EST.1	EST.2	PERCENT TO REVALUE
1923	1,335	1,334	0.05
1924	1,399	1,399	0.01
1925	1,456	1,456	0.01
1926	1,154	1,154	-0.03
1927	1,066	1,067	-0.10
1928	2,016	2,008	0.40
1929	2,231	2,230	0.06
1930	2,164	2,164	0.02
1931	1,969	1,968	0.05
1932	2,030	2,190	-7.88
1933	2,096	2,040	2.67
1934	2,253	2,183	3.13
1935	2,406	2,324	3.42
1936	2,578	2,488	3.50
1937	2,700	2,597	3.80
1938	2,799	2,684	4.12
1939	3,087	2,964	3.98
1940	3,511	3,512	-0.02
1941	3,764	3,784	-0.52
1942	4,020	4,020	0.00
1943	4,216	4,216	0.01
1944	4,302	4,281	0.48
1945	4,805	4,804	0.02
1946	5,571	5,571	-0.00
1947	6,905	6,904	0.01
1949	9,705	9,705	-0.00
1950	11,511	11,495	0.14
1951	12,792	12,791	0.00
1952	14,068	14,069	-0.00
1953	16,052	16,052	0.00
1954	19,680	19,430	1.27
1955	25,210	25,502	-1.16
1956	23,362	23,368	-0.02
1957	29,734	29,433	1.01
1958	29,372	29,377	-0.02
1959	29,314	29,049	0.90
1960	31,232	31,232	0.00
1961	35,062	35,061	0.00
1962	41,268	41,275	-0.02
1963	45,140	44,989	0.33
1964	51,426	51,425	0.00
1965	60,868	60,838	0.05
1966	66,460	66,430	0.05
1967	68,138	68,140	-0.00
1968	70,804	70,804	0.00
1969	79,452	79,466	-0.02
1970	88,465	88,465	0.00

TABLE 6.61 MARXIST RE-ALLOCATION OF OTHER PRODUCTIVE EXPENSES ELEMENTS
REVISED FACTORY PRODUCTION, 1923-70

	OTHER PROD. EXPS.	---CIRCULATING CAPITAL---			---RECONSTITUTION FIXED---- CAPITAL----------			---------SURPLUS-VALUE---------				A PLUS B PLUS C
		FUELS	OTHER	TOTAL A	DEPREC'N	REPAIRS	TOTAL B	INS'CE	RENT	INT'ST	TOTAL C	
1923	11,917	1,992	3,932	5,924	1,334	2,389	3,723	515	531	1,224	2,270	11,917
1924	12,954	2,012	4,403	6,415	1,399	2,675	4,074	513	594	1,358	2,465	12,954
1925	14,172	2,011	4,998	7,009	1,456	3,037	4,493	551	675	1,444	2,670	14,172
1926	14,337	2,035	5,365	7,400	1,154	3,260	4,414	525	724	1,274	2,523	14,337
1927	14,627	2,068	5,552	7,620	1,067	3,374	4,441	508	749	1,309	2,566	14,627
1928	16,594	2,140	6,029	8,169	2,008	3,663	5,671	518	814	1,422	2,754	16,594
1929	17,558	2,131	6,391	8,522	2,230	3,884	6,114	520	862	1,540	2,922	17,558
1930	15,290	2,053	5,397	7,450	2,164	3,280	5,444	479	728	1,189	2,396	15,290
1931	13,372	1,638	4,927	6,565	1,968	2,994	4,962	439	665	741	1,845	13,372
1932	13,912	1,573	4,634	6,207	2,190	2,816	5,006	421	625	1,653	2,699	13,912
1933	13,019	1,639	4,472	6,111	2,040	2,718	4,758	366	604	1,180	2,150	13,019
1934	14,241	1,784	4,876	6,660	2,183	2,963	5,146	435	658	1,342	2,435	14,241
1935	15,521	1,931	5,343	7,274	2,324	3,247	5,571	474	721	1,481	2,676	15,521
1936	17,560	2,153	6,317	8,470	2,488	3,839	6,327	540	852	1,371	2,763	17,560
1937	17,806	2,462	5,913	8,375	2,597	3,593	6,190	789	798	1,654	3,241	17,806
1938	16,742	2,650	5,072	7,722	2,684	3,082	5,766	942	685	1,627	3,254	16,742
1939	19,729	3,074	5,678	8,752	3,964	3,451	7,415	1,090	766	1,706	3,562	19,729
1940	20,316	3,335	5,954	9,289	3,512	3,618	7,130	1,235	803	1,859	3,897	20,316
1941	22,037	3,651	6,393	10,044	3,784	3,885	7,669	1,516	863	1,945	4,324	22,037
1942	23,092	4,079	6,341	10,420	4,020	3,853	7,873	1,903	856	2,040	4,799	23,092
1943	25,244	4,373	7,087	11,460	4,216	4,307	8,523	2,108	956	2,197	5,261	25,244
1944	26,830	4,671	7,748	12,419	4,281	4,708	8,989	1,997	1,046	2,379	5,422	26,830
1945	28,654	4,778	8,339	13,117	4,804	5,068	9,872	2,094	1,125	2,446	5,665	28,654
1946	31,506	4,883	9,274	14,157	5,571	5,636	11,207	2,292	1,252	2,598	6,142	31,506
1947	37,059	5,681	10,675	16,356	6,904	6,487	13,391	2,781	1,441	3,090	7,312	37,059

TABLE 6.61 MARXIST RE-ALLOCATION OF OTHER PRODUCTIVE EXPENSES ELEMENTS
REVISED FACTORY PRODUCTION, 1923-70

	OTHER PROD. EXPS.	---CIRCULATING CAPITAL--- FUELS	OTHER	TOTAL A	---RECONSTITUTION FIXED---- CAPITAL---------- DEPREC'N	REPAIRS	TOTAL B	---------SURPLUS-VALUE--------- INS'CE	RENT	INT'ST	TOTAL C	A PLUS B PLUS C
1949	45,740	6,967	10,707	17,674	9,705	6,506	16,211	3,249	1,445	7,161	11,855	45,740
1950	54,365	8,617	15,042	23,659	11,495	9,141	20,636	3,773	2,030	4,267	10,070	54,365
1951	58,119	9,886	14,524	24,410	12,791	11,199	23,990	4,220	2,408	3,091	9,719	58,119
1952	63,788	10,474	16,735	27,209	14,069	11,745	25,814	4,652	2,670	3,443	10,765	63,788
1953	73,319	11,981	21,135	33,116	16,052	12,866	28,918	4,890	2,842	3,553	11,285	73,319
1954	87,221	13,501	28,692	42,193	19,430	14,547	33,977	5,182	3,191	2,678	11,051	87,221
1955	104,620	14,692	33,654	48,346	25,502	16,378	41,880	5,618	3,773	5,003	14,394	104,620
1956	107,647	16,644	34,533	51,177	23,368	17,262	40,630	5,962	4,063	5,815	15,840	107,647
1957	122,535	18,446	38,140	56,586	29,433	18,716	48,149	7,392	4,310	6,098	17,800	122,535
1958	131,073	20,940	42,743	63,683	29,377	19,927	49,304	6,648	4,927	6,511	18,086	131,073
1959	135,521	21,833	44,680	66,513	29,049	20,798	49,847	7,318	5,539	6,304	19,161	135,521
1960	148,500	22,911	49,460	72,371	31,231	23,490	54,721	8,264	6,160	6,984	21,408	148,500
1961	163,642	24,244	55,794	80,038	35,061	23,991	59,052	8,992	7,218	8,342	24,552	163,642
1962	180,080	26,769	57,562	84,331	41,275	25,496	66,771	9,892	8,626	10,460	28,978	180,080
1963	195,899	29,172	61,567	90,739	44,989	28,195	73,184	10,626	9,761	11,589	31,976	195,899
1964	220,496	31,018	71,234	102,252	51,425	31,251	82,676	11,762	11,448	12,358	35,568	220,496
1965	250,489	33,593	78,957	112,550	60,838	35,971	96,809	13,064	13,724	14,342	41,130	250,489
1966	277,220	36,523	87,996	124,519	66,430	39,596	106,026	14,500	16,002	16,173	46,675	277,220
1967	290,567	39,176	92,319	131,495	68,140	39,513	107,653	15,209	17,696	18,514	51,419	290,567
1968	316,070	42,552	103,529	146,081	70,804	43,674	114,478	16,016	19,230	20,265	55,511	316,070
1969	358,947	46,890	120,098	166,988	79,466	51,232	130,698	17,745	21,475	22,041	61,261	358,947
1970	422,892	50,718	148,622	199,340	88,465	62,761	151,226	20,985	24,713	26,628	72,326	422,892

TABLE 6.62 ANNUAL FLOW OF CIRCULATING CAPITAL
REVISED FACTORY PRODUCTION, 1923-70

	INCIDENTAL COSTS OF PRODUCTION	NON PROD. WAGES & SALARIES FROM TAB 6.39	RAW MATERIALS FROM TAB 4.22	TOTAL CIRCULATING CAPITAL
1923	5,924	5,848	57,946	69,718
1924	6,415	6,923	68,820	82,158
1925	7,009	6,760	67,382	81,151
1926	7,400	9,196	60,370	76,966
1927	7,620	9,268	71,422	88,310
1928	8,169	9,382	69,414	86,965
1929	8,522	7,113	68,186	83,821
1930	7,450	6,363	58,294	72,107
1931	6,565	5,207	46,680	58,452
1932	6,207	5,481	48,142	59,830
1933	6,111	5,075	54,478	65,664
1934	6,660	5,337	64,220	76,217
1935	7,274	6,143	69,428	82,845
1936	8,470	6,895	83,940	99,305
1937	8,375	7,236	90,216	105,827
1938	7,722	7,623	90,284	105,629
1939	8,752	8,307	103,218	120,277
1940	9,289	9,034	123,270	141,593
1941	10,044	9,909	133,302	153,255
1942	10,420	10,639	147,350	168,409
1943	11,460	11,356	159,366	182,182
1944	12,419	12,227	170,952	195,598
1945	13,117	13,947	180,952	208,016
1946	14,157	15,705	203,608	233,470
1947	16,356	18,372	259,486	294,214
1949	17,674	19,713	313,554	350,941
1950	23,659	22,701	402,612	448,972
1951	24,410	25,105	439,000	488,515
1952	27,209	28,062	477,160	532,431
1953	33,116	30,696	512,676	576,488
1954	42,193	34,318	575,546	652,057
1955	48,346	38,821	606,084	693,251
1956	51,177	41,431	626,194	718,802
1957	56,586	44,977	667,996	769,559
1958	63,683	48,330	682,862	794,875
1959	66,513	52,172	710,386	829,071
1960	72,371	58,071	783,468	913,910
1961	80,038	62,909	820,496	963,443
1962	84,331	68,690	845,684	998,705
1963	90,739	76,072	984,058	1,150,869
1964	102,252	85,812	1,137,830	1,325,894
1965	112,550	95,302	1,203,081	1,410,933
1966	124,519	104,535	1,240,263	1,469,317
1967	131,495	107,562	1,286,478	1,525,535
1968	146,081	115,892	1,451,594	1,713,567
1969	166,988	131,824	1,674,899	1,973,711
1970	199,340	156,266	1,878,245	2,233,851

TABLE 6:63 ANNUAL FLOW OF CIRCULATING CAPITAL, THOUSANDS 1984 DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	NOMINAL WAGES & SALARIES	CONSUMER PRICE INDEX	CONSTANT WAGES & SALARIES	-------NOMINAL-------- INCIDENTAL COSTS	RAW MATERIALS	WHOLESALE PRICE INDEX TOTAL	CONSTANT RAW MATERIALS & INC'L COSTS	CONSTANT CIRCULATING CAPITAL
1923	5,848	135	93,438	5,924	57,946	127	1,086,795	1,180,233
1924	6,923	137	108,999	6,415	68,820	127	1,277,026	1,386,025
1925	6,760	138	105,657	7,009	67,382	126	1,268,951	1,374,607
1926	9,196	139	142,696	7,400	60,370	120	1,222,587	1,365,284
1927	9,268	138	144,864	7,620	71,422	114	1,500,573	1,645,437
1928	9,382	138	146,637	8,169	69,414	113	1,481,034	1,627,672
1929	7,113	138	111,179	8,522	68,186	112	1,477,314	1,588,493
1930	6,363	135	101,667	7,450	58,294	109	1,301,007	1,402,674
1931	5,207	125	89,852	6,565	46,680	102	1,125,975	1,215,827
1932	5,481	115	102,804	6,207	48,142	100	1,172,308	1,275,112
1933	5,075	109	100,433	6,111	54,478	102	1,281,279	1,381,712
1934	5,337	111	103,718	6,660	64,220	103	1,484,351	1,588,069
1935	6,143	115	115,225	7,274	69,428	107	1,546,226	1,661,451
1936	6,895	119	124,977	8,470	83,940	107	1,862,882	1,987,859
1937	7,236	127	122,897	8,375	90,216	116	1,833,283	1,956,180
1938	7,623	131	125,523	7,722	90,284	118	1,791,516	1,917,039
1939	8,307	136	131,744	8,752	103,218	122	1,979,666	2,111,410
1940	9,034	142	137,225	9,289	123,270	136	2,102,425	2,239,649
1941	9,909	148	144,423	10,044	133,302	149	2,075,150	2,219,573
1942	10,639	152	150,973	10,420	147,350	161	2,113,726	2,264,699
1943	11,356	156	157,014	11,460	159,366	172	2,142,277	2,299,291
1944	12,227	159	165,874	12,419	170,952	177	2,234,640	2,400,514
1945	13,947	161	186,849	13,117	180,952	180	2,325,594	2,512,442
1946	15,705	162	209,114	14,157	203,608	181	2,595,133	2,804,248
1947	18,372	167	237,291	16,356	259,486	187	3,181,771	3,419,062

TABLE 6:63 ANNUAL FLOW OF CIRCULATING CAPITAL, THOUSANDS 1984 DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	NOMINAL WAGES & SALARIES	CONSUMER PRICE INDEX	CONSTANT WAGES & SALARIES	-------NOMINAL-------- INCIDENTAL COSTS	RAW MATERIALS	WHOLESALE PRICE INDEX TOTAL	CONSTANT RAW MATERIALS & INC'L COSTS	CONSTANT CIRCULATING CAPITAL
1949	19,713	184	231,096	17,674	313,554	207	3,451,492	3,682,588
1950	22,701	194	252,398	23,659	402,612	226	4,068,436	4,320,834
1951	25,105	216	250,704	24,410	439,000	263	3,800,667	4,051,371
1952	28,062	232	260,901	27,209	477,160	292	3,725,767	3,986,668
1953	30,696	243	272,475	33,116	512,676	290	4,059,563	4,332,038
1954	34,318	254	291,436	42,193	575,546	287	4,642,728	4,934,164
1955	38,821	260	322,063	48,346	606,084	290	4,867,605	5,189,668
1956	41,431	269	332,219	51,177	626,194	301	4,854,117	5,186,336
1957	44,977	275	352,785	56,586	667,996	305	5,124,339	5,477,124
1958	48,330	287	363,231	63,683	682,862	313	5,144,721	5,507,951
1959	52,172	298	377,636	66,513	710,386	318	5,269,721	5,647,356
1960	58,071	300	417,533	72,371	783,468	319	5,786,974	6,204,507
1961	62,909	306	443,443	80,038	820,496	318	6,108,339	6,551,783
1962	68,690	314	471,861	84,331	845,684	316	6,348,235	6,820,096
1963	76,072	320	512,773	90,739	984,058	322	7,199,805	7,712,578
1964	85,812	331	559,204	102,252	1,137,830	334	8,008,554	8,567,757
1965	95,302	343	599,319	112,550	1,203,081	343	8,273,516	8,872,835
1966	104,535	352	640,574	124,519	1,240,263	349	8,435,057	9,075,631
1967	107,562	373	622,014	131,495	1,286,478	357	8,567,417	9,189,431
1968	115,892	389	642,620	146,081	1,451,594	382	9,021,427	9,664,046
1969	131,824	409	695,219	166,988	1,674,899	401	9,907,607	10,602,825
1970	156,266	435	774,864	199,340	1,878,245	425	10,544,355	11,319,219

TABLE 6:64 ANNUAL CIRCULATING CAPITAL, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	---THOUSANDS CONSTANT DOLLARS---					
		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	1,180,233					
1924	1,386,025	1,180,233	205,792	17.44		
1925	1,374,607	1,386,025			-11,418	-0.82
1926	1,365,284	1,374,607			-9,324	-0.68
1927	1,645,437	1,365,284	280,153	20.52		
1928	1,627,672	1,645,437			-17,765	-1.08
1929	1,588,493	1,627,672			-39,179	-2.41
1930	1,402,674	1,588,493			-185,819	-11.70
1931	1,215,827	1,402,674			-186,847	-13.32
1932	1,275,112	1,215,827	59,285	4.88		
1933	1,381,712	1,275,112	106,599	8.36		
1934	1,588,069	1,381,712	206,357	14.93		
1935	1,661,451	1,588,069	73,383	4.62		
1936	1,987,859	1,661,451	326,408	19.65		
1937	1,956,180	1,987,859			-31,679	-1.59
1938	1,917,039	1,956,180			-39,141	-2.00
1939	2,111,410	1,917,039	194,371	10.14		
1940	2,239,649	2,111,410	128,239	6.07		
1941	2,219,573	2,239,649			-20,076	-0.90
1942	2,264,699	2,219,573	45,126	2.03		
1943	2,299,291	2,264,699	34,592	1.53		
1944	2,400,514	2,299,291	101,223	4.40		
1945	2,512,442	2,400,514	111,928	4.66		
1946	2,804,248	2,512,442	291,806	11.61		
1947	3,419,062	2,804,248	614,814	21.92		
1949	3,682,588	3,419,062	263,526	7.71		
1950	4,320,834	3,682,588	638,246	17.33		
1951	4,051,371	4,320,834			-269,463	-6.24
1952	3,986,668	4,051,371			-64,703	-1.60
1953	4,332,038	3,986,668	345,370	8.66		
1954	4,934,164	4,332,038	602,126	13.90		
1955	5,189,668	4,934,164	255,504	5.18		
1956	5,186,336	5,189,668			-3,332	-0.06
1957	5,477,124	5,186,336	290,787	5.61		
1958	5,507,951	5,477,124	30,828	0.56		
1959	5,647,356	5,507,951	139,405	2.53		
1960	6,204,507	5,647,356	557,150	9.87		
1961	6,551,783	6,204,507	347,276	5.60		
1962	6,820,096	6,551,783	268,314	4.10		
1963	7,712,578	6,820,096	892,481	13.09		
1964	8,567,757	7,712,578	855,180	11.09		
1965	8,872,835	8,567,757	305,078	3.56		
1966	9,075,631	8,872,835	202,795	2.29		
1967	9,189,431	9,075,631	113,800	1.25		
1968	9,664,046	9,189,431	474,616	5.16		
1969	10,602,825	9,664,046	938,779	9.71		
1970	11,319,219	10,602,825	716,394	6.76		

TABLE 6:65 CIRCULATING CAPITAL, FRACTIONS AS PERCENT REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	PERCENT OF TOTAL		
		INCIDENTAL COSTS	WAGES & SALARIES	RAW MATERIALS
1923	69,718	8.50	8.39	83.11
1924	82,158	7.81	8.43	83.77
1925	81,151	8.64	8.33	83.03
1926	76,966	9.61	11.95	78.44
1927	88,310	8.63	10.49	80.88
1928	86,965	9.39	10.79	79.82
1929	83,821	10.17	8.49	81.35
1930	72,107	10.33	8.82	80.84
1931	58,452	11.23	8.91	79.86
1932	59,830	10.37	9.16	80.46
1933	65,664	9.31	7.73	82.96
1934	76,217	8.74	7.00	84.26
1935	82,845	8.78	7.42	83.80
1936	99,305	8.53	6.94	84.53
1937	105,827	7.91	6.84	85.25
1938	105,629	7.31	7.22	85.47
1939	120,277	7.28	6.91	85.82
1940	141,593	6.56	6.38	87.06
1941	153,255	6.55	6.47	86.98
1942	168,409	6.19	6.32	87.50
1943	182,182	6.29	6.23	87.48
1944	195,598	6.35	6.25	87.40
1945	208,016	6.31	6.70	86.99
1946	233,470	6.06	6.73	87.21
1947	294,214	5.56	6.24	88.20
1949	350,941	5.04	5.62	89.35
1950	448,972	5.27	5.06	89.67
1951	488,515	5.00	5.14	89.86
1952	532,431	5.11	5.27	89.62
1953	576,488	5.74	5.32	88.93
1954	652,057	6.47	5.26	88.27
1955	693,251	6.97	5.60	87.43
1956	718,802	7.12	5.76	87.12
1957	769,559	7.35	5.84	86.80
1958	794,875	8.01	6.08	85.91
1959	829,071	8.02	6.29	85.68
1960	913,910	7.92	6.35	85.73
1961	963,443	8.31	6.53	85.16
1962	998,705	8.44	6.88	84.68
1963	1,150,869	7.88	6.61	85.51
1964	1,325,894	7.71	6.47	85.82
1965	1,410,933	7.98	6.75	85.27
1966	1,469,317	8.47	7.11	84.41
1967	1,525,535	8.62	7.05	84.33
1968	1,713,567	8.52	6.76	84.71
1969	1,973,711	8.46	6.68	84.86
1970	2,233,851	8.92	7.00	84.08

APPENDIX 6.D

6.D FIXED CONSTANT CAPITAL

The value of fixed constant capital is the value of plant and premises, the total of: the land, the buildings and the machinery. This total for Revised Factory Production is determined in Appendix 4, pp 184-186, above.

The task here is to refine those totals, to trace the plant and premises separately and to establish the evolution of the relative proportions between the two.

There are 9 tables in the set. The first four deal with premises: 6:66: excludes values for Gas, Electricity and Tramways; 6:67: excludes Dairy Factories; 6:68 converts the nominal dollars of 6:67 to constant 1984 dollars; and 6:69 shows the changes in constant dollar values on a year by year basis. Tables 6:70 to 6:73 repeat the process for plant. Table 6:74 brings the two parts back together in a single series, and shows each as a percentage of the whole. Finally Table 7:75 revalues the totals shown here, taken from the annual reports, back to those from the Historical Summaries shown Table 4:37.

TABLE 6:66 LAND & BULDINGS
FACTORY PRODUCTION, 1923-70

	---------THOUSANDS OF NOMINAL DOLLARS---------				
	MANUFACTURE	GAS	ELECT.	TRAMS	FACTORY PRODUCTION
1923	38,578	1,168	1,184	1,163	35,063
1924	39,847	1,050	1,344	1,079	36,374
1925	44,341	1,108	2,633	1,295	39,305
1926	45,751	1,127	2,634	1,559	40,431
1927	46,603	1,114	2,664	1,528	41,297
1928	48,237	1,163	2,790	1,496	42,788
1929	50,894	1,199	3,647	1,499	44,549
1930	48,658	1,238	3,544	1,530	42,346
1931	45,977	1,397	3,651	0	40,929
1932	45,819	1,426	3,690	0	40,703
1933	44,318	1,441	3,455	0	39,422
1934	46,319	1,441	4,352	0	40,526
1935	47,971	1,309	4,886	0	41,776
1936	48,891	1,276	4,697	0	42,918
1937	51,147	1,276	4,778	0	45,093
1938	54,403	1,265	5,015	0	48,123
1939	57,088	1,249	4,961	0	50,878
1940	58,459	1,250	4,728	0	52,481
1941	60,399	1,055	5,000	0	54,344
1942	61,785	1,028	4,648	0	56,109
1943	63,467	1,035	4,269	0	58,163
1944	67,865	1,012	4,628	0	62,225
1945	71,842	1,023	4,681	0	66,138
1946	76,122	1,035	4,726	0	70,361
1947	85,186	1,016	7,489	0	76,681
1949	102,607	1,060	12,174	0	89,373
1950	116,723	1,100	13,850	0	101,773
1951	113,965	0	0	0	113,965
1952	126,557	0	0	0	126,557
1953	138,720	0	0	0	138,720
1954	161,375	0	0	0	161,375
1955	194,028	0	0	0	194,028
1956	209,275	0	0	0	209,275
1957	225,517	0	0	0	225,517
1958	247,258	0	0	0	247,258
1959	273,100	0	0	0	273,100
1960	308,236	0	0	0	308,236
1961	351,894	0	0	0	351,894
1962	394,312	0	0	0	394,312
1963	426,616	0	0	0	426,616
1964	469,942	0	0	0	469,942
1965	545,645	0	0	0	545,645
1966	613,800	0	0	0	613,800
1967	646,147	0	0	0	646,147
1968	691,011	0	0	0	691,011
1969	789,891	0	0	0	789,891
1970	858,750	0	0	0	858,750

TABLE 6:67 LAND & BUILDINGS
REV. FACTORY PRODUCTION, 1923-70

	-----THOUSANDS NOMINAL DOLLARS------		
	FACTORY PRODUCTION	DAIRY FACTORIES	REV. FACTORY PRODUCTION
1923	35,063	3,440	31,623
1924	36,374	3,546	32,828
1925	39,305	4,914	34,391
1926	40,431	4,152	36,279
1927	41,297	4,270	37,027
1928	42,788	4,322	38,466
1929	44,549	4,190	40,359
1930	42,346	4,220	38,126
1931	40,929	4,188	36,741
1932	40,703	4,082	36,621
1933	39,422	3,786	35,636
1934	40,526	3,740	36,786
1935	41,776	3,710	38,066
1936	42,918	3,826	39,092
1937	45,093	3,666	41,427
1938	48,123	3,724	44,399
1939	50,878	3,802	47,076
1940	52,481	3,620	48,861
1941	54,344	3,718	50,626
1942	56,109	3,502	52,607
1943	58,163	3,450	54,713
1944	62,225	3,632	58,593
1945	66,138	3,532	62,606
1946	70,361	3,754	66,607
1947	76,681	4,536	72,145
1949	89,373	5,968	83,405
1950	101,773	6,900	94,873
1951	113,965	7,062	106,903
1952	126,557	8,874	117,683
1953	138,720	11,516	127,204
1954	161,375	11,792	149,583
1955	194,028	12,116	181,912
1956	209,275	14,328	194,947
1957	225,517	14,486	211,031
1958	247,258	14,696	232,562
1959	273,100	14,414	258,686
1960	308,236	14,536	293,700
1961	351,894	15,038	336,856
1962	394,312	15,470	378,842
1963	426,616	15,240	411,376
1964	469,942	16,284	453,658
1965	545,645	18,653	526,992
1966	613,800	20,155	593,645
1967	646,147	22,490	623,657
1968	691,011	28,141	662,870
1969	789,891	28,029	761,862
1970	857,750	29,235	828,515

TABLE 6:68 LAND & BUILDINGS, CONSTANT 1984 DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	CONSUMER PRICE INDEX	THOUSANDS CONSTANT DOLLARS
1923	31,623	135	505,265
1924	32,828	137	516,861
1925	34,391	138	537,546
1926	36,279	139	562,977
1927	37,027	138	578,748
1928	38,466	138	601,240
1929	40,359	138	630,829
1930	38,126	135	609,169
1931	36,741	125	634,003
1932	36,621	115	686,883
1933	35,636	109	705,200
1934	36,786	111	714,841
1935	38,066	115	713,986
1936	39,092	119	708,584
1937	41,427	127	703,607
1938	44,399	131	731,058
1939	47,076	136	746,639
1940	48,861	142	742,205
1941	50,626	148	737,840
1942	52,607	152	746,535
1943	54,713	156	756,512
1944	58,593	159	794,875
1945	62,606	161	838,765
1946	66,607	162	886,860
1947	72,145	167	931,837
1949	83,405	184	977,742
1950	94,873	194	1,054,851
1951	106,903	216	1,067,545
1952	117,683	232	1,094,148
1953	127,204	243	1,129,132
1954	149,583	254	1,270,278
1955	181,912	260	1,509,170
1956	194,947	269	1,563,200
1957	211,031	275	1,655,250
1958	232,562	287	1,747,861
1959	258,686	298	1,872,435
1960	293,700	300	2,111,703
1961	336,856	306	2,374,505
1962	378,842	314	2,602,427
1963	411,376	320	2,772,931
1964	453,658	331	2,956,315
1965	526,992	343	3,314,058
1966	593,645	352	3,637,762
1967	623,657	373	3,606,510
1968	662,870	389	3,675,606
1969	761,862	409	4,017,937
1970	828,515	435	4,108,292

TABLE 6.69 LAND & BUILDINGS, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	---INCREASE----		---DECREASE----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	505,265					
1924	516,861	505,265	11,596	2.30		
1925	537,546	516,861	20,685	4.00		
1926	562,977	537,546	25,431	4.73		
1927	578,748	562,977	15,771	2.80		
1928	601,240	578,748	22,492	3.89		
1929	630,829	601,240	29,588	4.92		
1930	609,169	630,829			-21,660	-3.43
1931	634,003	609,169	24,834	4.08		
1932	686,883	634,003	52,880	8.34		
1933	705,200	686,883	18,318	2.67		
1934	714,841	705,200	9,641	1.37		
1935	713,986	714,841			-856	-0.12
1936	708,584	713,986			-5,402	-0.76
1937	703,607	708,584			-4,977	-0.70
1938	731,058	703,607	27,452	3.90		
1939	746,639	731,058	15,581	2.13		
1940	742,205	746,639			-4,434	-0.59
1941	737,840	742,205			-4,366	-0.59
1942	746,535	737,840	8,695	1.18		
1943	756,512	746,535	9,978	1.34		
1944	794,875	756,512	38,362	5.07		
1945	838,765	794,875	43,890	5.52		
1946	886,860	838,765	48,095	5.73		
1947	931,837	886,860	44,977	5.07		
1949	977,742	931,837	45,905	4.93		
1950	1,054,851	977,742	77,109	7.89		
1951	1,067,545	1,054,851	12,694	1.20		
1952	1,094,148	1,067,545	26,602	2.49		
1953	1,129,132	1,094,148	34,984	3.20		
1954	1,270,278	1,129,132	141,146	12.50		
1955	1,509,170	1,270,278	238,892	18.81		
1956	1,563,200	1,509,170	54,030	3.58		
1957	1,655,250	1,563,200	92,051	5.89		
1958	1,747,861	1,655,250	92,611	5.59		
1959	1,872,435	1,747,861	124,574	7.13		
1960	2,111,703	1,872,435	239,268	12.78		
1961	2,374,505	2,111,703	262,802	12.45		
1962	2,602,427	2,374,505	227,923	9.60		
1963	2,772,931	2,602,427	170,504	6.55		
1964	2,956,315	2,772,931	183,384	6.61		
1965	3,314,058	2,956,315	357,742	12.10		
1966	3,637,762	3,314,058	323,705	9.77		
1967	3,606,510	3,637,762			-31,252	-0.86
1968	3,675,606	3,606,510	69,096	1.92		
1969	4,017,937	3,675,606	342,332	9.31		
1970	4,108,292	4,017,937	90,355	2.25		

TABLE 6:70 MACHINERY, PLANT, TOOLS & IMPLEMENTS
FACTORY PRODUCTION, 1923-70

	THOUSANDS OF NOMINAL DOLLARS				
	MANUFACTURE	GAS	ELECT.	TRAMS	FACTORY PRODUCTION
1923	52,418	6,718	14,476	6,865	24,359
1924	60,111	6,840	18,108	8,324	26,839
1925	73,797	7,439	30,666	8,227	27,465
1926	79,695	7,948	35,188	8,574	27,985
1927	82,745	7,896	38,428	8,546	27,875
1928	86,439	8,560	41,413	8,780	27,686
1929	92,417	8,572	46,632	9,096	28,117
1930	96,171	8,825	49,204	9,662	28,480
1931	85,837	8,728	50,630	0	26,479
1932	85,892	8,766	50,515	0	26,611
1933	84,463	8,547	50,048	0	25,868
1934	88,218	8,664	53,973	0	25,581
1935	86,907	7,430	53,595	0	25,882
1936	90,304	7,075	56,005	0	27,224
1937	94,330	7,145	58,244	0	28,941
1938	98,592	7,029	61,132	0	30,431
1939	104,059	7,077	64,394	0	32,588
1940	109,051	6,977	68,710	0	33,364
1941	113,857	7,076	72,186	0	34,595
1942	114,722	7,023	73,007	0	34,692
1943	118,013	7,050	75,708	0	35,255
1944	126,117	7,046	82,237	0	36,834
1945	135,939	6,968	90,068	0	38,903
1946	150,919	7,141	100,969	0	42,809
1947	180,439	7,517	121,012	0	51,910
1949	221,981	8,153	147,141	0	66,687
1950	242,860	8,528	160,245	0	74,087
1951	81,594	0	0	0	81,594
1952	91,657	0	0	0	91,657
1953	105,819	0	0	0	105,819
1954	115,774	0	0	0	115,774
1955	145,718	0	0	0	145,718
1956	150,972	0	0	0	150,972
1957	153,057	0	0	0	153,057
1958	164,515	0	0	0	164,515
1959	175,354	0	0	0	175,354
1960	190,374	0	0	0	190,374
1961	209,188	0	0	0	209,188
1962	240,408	0	0	0	240,408
1963	247,306	0	0	0	247,306
1964	277,356	0	0	0	277,356
1965	308,074	0	0	0	308,074
1966	334,592	0	0	0	334,592
1967	343,411	0	0	0	343,411
1968	358,538	0	0	0	358,538
1969	426,298	0	0	0	426,298
1970	470,375	0	0	0	470,375

TABLE 6:71 MACHINERY, PLANT, TOOLS & IMPLEMENTS
REVISED FACTORY PRODUCTION, 1923-70

	-----THOUSANDS NOMINAL DOLLARS------		
	FACTORY PRODUCTION	DAIRY FACTORIES	REV. FACTORY PRODUCTION
1923	24,359	3,752	20,607
1924	26,839	3,954	22,885
1925	27,465	3,818	23,647
1926	27,985	3,674	24,311
1927	27,875	3,464	24,411
1928	27,686	3,486	24,200
1929	28,117	3,600	24,517
1930	28,480	3,556	24,924
1931	26,479	3,566	22,913
1932	26,611	3,446	23,165
1933	25,868	3,468	22,400
1934	25,581	3,478	22,103
1935	25,882	3,414	22,468
1936	27,224	3,478	23,746
1937	28,941	3,444	25,497
1938	30,431	3,546	26,885
1939	32,588	3,484	29,104
1940	33,364	3,372	29,992
1941	34,595	3,346	31,249
1942	34,692	2,998	31,694
1943	35,255	2,700	32,555
1944	36,834	2,506	34,328
1945	38,903	2,888	36,015
1946	42,809	3,302	39,507
1947	51,910	4,794	47,116
1949	66,687	6,796	59,891
1950	74,087	7,380	66,707
1951	81,594	7,764	73,830
1952	91,657	10,558	81,099
1953	105,819	13,464	92,355
1954	115,774	13,696	102,078
1955	145,718	13,796	131,922
1956	150,972	15,474	135,498
1957	153,057	16,156	136,901
1958	164,515	16,764	147,751
1959	175,354	16,580	158,774
1960	190,374	17,250	173,124
1961	209,188	17,546	191,642
1962	240,408	18,060	222,348
1963	247,306	17,246	230,060
1964	277,356	18,784	258,572
1965	308,074	21,222	286,852
1966	334,592	23,124	311,468
1967	343,411	24,491	318,920
1968	358,538	30,367	328,171
1969	426,298	31,352	394,946
1970	470,375	34,529	435,846

TABLE 6:72 MACHINERY, PLANT ETC., CONSTANT 1984 DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	WHOLESALE PRICE INDEX IMPORTED	THOUSANDS CONSTANT DOLLARS
1923	20,607	115	386,690
1924	22,885	113	435,784
1925	23,647	112	457,048
1926	24,311	105	501,207
1927	24,411	98	536,153
1928	24,200	96	543,880
1929	24,517	95	556,665
1930	24,924	93	578,076
1931	22,913	91	543,114
1932	23,165	91	549,087
1933	22,400	96	503,300
1934	22,103	95	501,854
1935	22,468	95	510,142
1936	23,746	95	539,159
1937	25,497	103	533,952
1938	26,885	104	557,605
1939	29,104	106	592,239
1940	29,992	125	517,542
1941	31,249	140	481,458
1942	31,694	154	443,922
1943	32,555	170	413,066
1944	34,328	175	423,117
1945	36,015	178	436,429
1946	39,507	177	481,450
1947	47,116	181	561,487
1949	59,891	199	649,170
1950	66,707	211	681,929
1951	73,830	246	647,363
1952	81,099	278	629,247
1953	92,355	264	754,582
1954	102,078	252	873,739
1955	131,922	256	1,111,546
1956	135,498	263	1,111,290
1957	136,901	270	1,093,687
1958	147,751	279	1,142,290
1959	158,774	286	1,197,467
1960	173,124	282	1,324,214
1961	191,642	283	1,460,678
1962	222,348	283	1,694,716
1963	230,060	289	1,717,091
1964	258,572	289	1,929,896
1965	286,852	295	2,097,423
1966	311,468	300	2,239,455
1967	318,920	311	2,211,931
1968	328,171	348	2,034,094
1969	394,946	364	2,340,381
1970	435,846	387	2,429,250

TABLE 6:73 MACHINERY, PLANT ETC., CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	---INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	386,690					
1924	435,784	386,690	49,093	12.70		
1925	457,048	435,784	21,265	4.88		
1926	501,207	457,048	44,159	9.66		
1927	536,153	501,207	34,946	6.97		
1928	543,880	536,153	7,727	1.44		
1929	556,665	543,880	12,785	2.35		
1930	578,076	556,665	21,411	3.85		
1931	543,114	578,076			-34,962	-6.05
1932	549,087	543,114	5,973	1.10		
1933	503,300	549,087			-45,787	-8.34
1934	501,854	503,300			-1,446	-0.29
1935	510,142	501,854	8,287	1.65		
1936	539,159	510,142	29,017	5.69		
1937	533,952	539,159			-5,207	-0.97
1938	557,605	533,952	23,654	4.43		
1939	592,239	557,605	34,634	6.21		
1940	517,542	592,239			-74,697	-12.61
1941	481,458	517,542			-36,084	-6.97
1942	443,922	481,458			-37,536	-7.80
1943	413,066	443,922			-30,856	-6.95
1944	423,117	413,066	10,052	2.43		
1945	436,429	423,117	13,312	3.15		
1946	481,450	436,429	45,021	10.32		
1947	561,487	481,450	80,038	16.62		
1949	649,170	561,487	87,683	15.62		
1950	681,929	649,170	32,759	5.05		
1951	647,363	681,929			-34,566	-5.07
1952	629,247	647,363			-18,116	-2.80
1953	754,582	629,247	125,336	19.92		
1954	873,739	754,582	119,157	15.79		
1955	1,111,546	873,739	237,807	27.22		
1956	1,111,290	1,111,546			-256	-0.02
1957	1,093,687	1,111,290			-17,603	-1.58
1958	1,142,290	1,093,687	48,603	4.44		
1959	1,197,467	1,142,290	55,177	4.83		
1960	1,324,214	1,197,467	126,748	10.58		
1961	1,460,678	1,324,214	136,463	10.31		
1962	1,694,716	1,460,678	234,038	16.02		
1963	1,717,091	1,694,716	22,375	1.32		
1964	1,929,896	1,717,091	212,804	12.39		
1965	2,097,423	1,929,896	167,527	8.68		
1966	2,239,455	2,097,423	142,032	6.77		
1967	2,211,931	2,239,455			-27,524	-1.23
1968	2,034,094	2,211,931			-177,836	-8.04
1969	2,340,381	2,034,094	306,286	15.06		
1970	2,429,250	2,340,381	88,869	3.80		

TABLE 6:74 FIXED CONSTANT CAPITAL
REVISED FACTORY PRODUCTION, 1923-70

	-----FIXED CONSTANT CAPITAL-----			PLANT &
	LAND & BUILDINGS	PLANT & MACHINERY	TOTAL	MACHINERY % TOTAL
1923	31,623	20,607	52,230	39.45
1924	32,828	22,885	55,713	41.08
1925	34,391	23,647	58,038	40.74
1926	36,279	24,311	60,590	40.12
1927	37,027	24,411	61,438	39.73
1928	38,466	24,200	62,666	38.62
1929	40,359	24,517	64,876	37.79
1930	38,126	24,924	63,050	39.53
1931	36,741	22,913	59,654	38.41
1932	36,621	23,165	59,786	38.75
1933	35,636	22,400	58,036	38.60
1934	36,786	22,103	58,889	37.53
1935	38,066	22,468	60,534	37.12
1936	39,092	23,746	62,838	37.79
1937	41,427	25,497	66,924	38.10
1938	44,399	26,885	71,284	37.72
1939	47,076	29,104	76,180	38.20
1940	48,861	29,992	78,853	38.04
1941	50,626	31,249	81,875	38.17
1942	52,607	31,694	84,301	37.60
1943	54,713	32,555	87,268	37.30
1944	58,593	34,328	92,921	36.94
1945	62,606	36,015	98,621	36.52
1946	66,607	39,507	106,114	37.23
1947	72,145	47,116	119,261	39.51
1949	83,405	59,891	143,296	41.80
1950	94,873	66,707	161,580	41.28
1951	106,903	73,830	180,733	40.85
1952	117,683	81,099	198,782	40.80
1953	127,204	92,355	219,559	42.06
1954	149,583	102,078	251,661	40.56
1955	181,912	131,922	313,834	42.04
1956	194,947	135,498	330,445	41.00
1957	211,031	136,901	347,932	39.35
1958	232,562	147,751	380,313	38.85
1959	258,686	158,774	417,460	38.03
1960	293,700	173,124	466,824	37.09
1961	336,856	191,642	528,498	36.26
1962	378,842	222,348	601,190	36.98
1963	411,376	230,060	641,436	35.87
1964	453,658	258,572	712,230	36.30
1965	526,992	286,852	813,844	35.25
1966	593,645	311,468	905,113	34.41
1967	623,657	318,920	942,577	33.83
1968	662,870	328,171	991,041	33.11
1969	761,862	394,946	1,156,808	34.14
1970	828,515	435,846	1,264,361	34.47

TABLE 6:75 REVALUATION OF PLANT & PREMISES TO TABLE 4:37
REVISED FACTORY PRODUCTION, 1923-70

	FIXED CONSTANT CAPITAL					DIFF	REVISED		
	LAND & BUILDINGS	PLANT & MACHINERY	TOTAL	FROM TAB 4:37	DIFF.	% 4:37	PLANT	PREMISES	TOT.
1949	83,405	59,891	143,296	143,288	8	0.01	59,888	83,400	143,288
1950	94,873	66,707	161,580	161,622	-42	-0.03	66,724	94,898	161,622
1951	106,903	73,830	180,733	180,218	515	0.29	73,619	106,598	180,217
1952	117,683	81,099	198,782	198,768	14	0.01	81,093	117,675	198,768
1953	127,204	92,355	219,559	219,560	-1	-0.00	92,355	127,205	219,560
1954	149,583	102,078	251,661	251,060	601	0.24	101,834	149,225	251,059
1955	181,912	131,922	313,834	311,234	2,600	0.84	130,820	180,392	311,212
1956	194,947	135,498	330,445	330,444	1	0.00	135,498	194,946	330,444
1957	211,031	136,901	347,932	347,932	0	0.00	136,901	211,031	347,932
1958	232,562	147,751	380,313	380,312	1	0.00	147,751	232,561	380,312
1959	258,686	158,774	417,460	413,496	3,964	0.96	157,252	256,206	413,458
1960	293,700	173,124	466,824	466,824	0	0.00	173,124	293,700	466,824
1961	336,856	191,642	528,498	528,496	2	0.00	191,641	336,855	528,496
1962	378,842	222,348	601,190	601,190	0	0.00	222,348	378,842	601,190
1963	411,376	230,060	641,436	641,438	-2	-0.00	230,061	411,377	641,438
1964	453,658	258,572	712,230	712,234	-4	-0.00	258,573	453,661	712,234
1965	526,992	286,852	813,844	809,362	4,482	0.55	285,264	524,074	809,337
1966	593,645	311,468	905,113	899,603	5,510	0.61	309,560	590,009	899,569
1967	623,657	318,920	942,577	936,667	5,910	0.63	316,908	619,722	936,630
1968	662,870	328,171	991,041	985,315	5,726	0.58	326,264	659,018	985,282
1969	761,862	394,946	1,156,808	1,151,314	5,494	0.48	393,061	758,226	1,151,288
1970	828,515	435,846	1,264,361	1,261,454	2,907	0.23	434,842	826,606	1,261,447

APPENDIX 6.E SURPLUS-VALUE

As is discussed in the main text (chapter 5), for marxists productive labour simultaneously preserves existing value and creates new value. Surplus-value is defined as the sum of the newly created value. In turn, the sum of newly created value is determined by subtracting the preserved value of the inputs from the value of the total product.

Reasonably consistent series for (a) the value of production (b) reconstituted fixed capital, and the annual flows of circulating constant capital (c) and variable capital (d) for Revised Factory Production are shown above in Tables 4:35, 6:61, 6:62 and 6:39 respectively. In this section values for each are brought forward and the sum of (b), (c) and (d) is deducted from (a).

Table 6:76 shows the results of this operation. Table 6:77 converts the nominal dollar values for surplus-value into constant 1984 dollars. The increase or decrease in the volume of surplus-value is shown year by year in Table 6:78.

Not all marxists will agree with the definition of surplus-value used here. The remaining tables in the section group elements together along the lines of rival conceptions so that the different results can be

compared.

Shaikh argues that the wages and salaries of all non-productive workers are paid from newly created value. Table 6:79 recalculates surplus-value along these lines by removing the wages of non-productive workers from circulating capital and placing them in the fund of new value.

Hampton defines surplus-value as "Net Output minus salaries and wages paid". Net Output and Wages & Salaries from Table 5:17 are brought forward in Table 6:80 to make this computation.

Steven argues surplus-value is "...calculated by subtracting salaries and wages from value added, which procedure brings us closest to obtaining the Marxian Surplus" (Steven, 1978 p118n). Holland (The Marxian Theory Of Value) defines surplus-value in exactly the same way. The results of this calculation are shown in Table 6:81, which brings forward elements from Tables 5.2 and 5:17.

McAra deducts from the value of the product the cost of (1) raw materials (2) "services" (other productive expenses) and (3) total wages and salaries less income tax. McAra's formulation is not calculated

here since the sum of income tax paid on the gross wage and salary bill for Revised Factory Production is not available.

The most sophisticated and sensitive formulation, and the one closest to that taken in this thesis, is Mandel's. The position is laid out in more detail in the main text (chapter 5). Only so much is repeated here as enables calculating surplus-value along the lines he suggests.

Mandel distinguishes between those non-productive activities directly involved in production and those further removed, for the society as a whole. Generally speaking, non-productive activities are socially necessary. A part of the total capital available to the society must be employed to ensure that these socially necessary tasks are performed.

This fund Mandel terms "social capital". It includes such things as banking and commercial capital, finance capital, capital involved in wholesale and retail activities and so on. To ensure that sufficient capital is invested in the region of social capital, this type of investment must be made sufficiently profitable.

APPENDIX 6.E SURPLUS-VALUE

These profits come from newly created value in the production process, i.e. from surplus-value. But only the profits come from surplus-value. The remaining income for these sectors is preserved value, i.e. reproduced social capital.

Social capital is, in all important respects, identical to circulating capital: it facilitates the reproduction of the whole economy (including the production process) and must be on hand at all stages; at the beginning of the production process as loans to industrialists and at the end as credit to final consumers.

In terms of the inputs and outputs of Revised Factory Production social capital relates to (1) insurance, (2) rent, (3) interest and (4) income tax on wages & salaries.

The volume of social capital in rented property and loans advanced to employers is already contained within the data set. The value of rental property is included in fixed capital assets and the borrowed capital will appear somewhere, either as constant or variable capital. With respect to these two items, the values in Table 6:76 come close to Mandels's formulation.

APPENDIX 6.E SURPLUS-VALUE

To align our values completely it would be necessary to know (a) the cost structure of the two sectors and (b) the liability for these costs that should be made on Revised Factory Production. This information is not available in the data bases used here and thus fall outside the scope of this thesis.

This leaves insurance and income tax. With regard to both Mandel's formulation is undoubtedly correct. The problem is to operationalise the concept "social capital" in terms of the data sets used here. Put simply, how much of insurance and income tax payments on wages & salaries represent preserved value and how much profits ?

The easiest way to obtain an approximate value for the social capital involved in insurance in Revised Factory Production is to calculate the ratio of surplus-value to the value of the total product. This ratio would show that on average X units of total product contained Y units of surplus-value. Since the total income of the insurance industry from Revised Factory Production is known the surplus-value content of that income could be estimated by using the ratio X to Y.

There are a number of problems to this solution. In the first place it is circular. What fraction of insurance payments should count as surplus-value in the initial ratio ? To know the the total volume of surplus-value it is necessary to know how much of the insurance payments are surplus-value and how much reproduced value. If this was known it would not be necessary to make estimates.

But the procedure is not viciously circular. The weight of insurance in the total picture is, after all, quite small. Treating the whole of insurance as surplus-value in the initial ratio gives a better picture of the relation between preserved and surplus-value in insurance payments than is otherwise available. Repeating the procedure a number of times would, moreover, increase the accuracy of the estimation.

The second problem is that the use of a fixed ratio assumes that all income has the same cost structure, i.e. that each dollar of income preserves a similar stock of fixed capital and the flow of circulating capital. Despite these problems the method is used in Table 6:82 below. For all the inadequacies a better picture is obtained in this way than by either treating the whole of insurance as simply reproduced or

new value.

The problems involved in isolating out respectively the surplus-value and preserved value fractions of taxation are enormous and quite beyond the scope of our study.

For the purpose of our study income tax payments on wages & salaries is divided into three parts; the tax on non-productive workers (preserved social capital), 7.5% of the tax on the wages of productive workers (variable capital) and the remainder ("excess tax" i.e. surplus-value).

The closest approximation to Mandel's formulation of surplus-value that can be given here therefore is the one shown in Table 6:82.

TABLE 6:76 SURPLUS-VALUE, THOUSANDS NOMINAL DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	VALUE OF PRODUCT	PRESERVED VALUE			NEW OR SURPLUS VALUE
		FIXED CAPITAL	VARIABLE CAPITAL	CIRCULATING CAPITAL	
1923	103,378	3,723	18,814	69,718	11,123
1924	117,410	4,074	19,729	82,158	11,449
1925	115,818	4,493	21,994	81,151	8,180
1926	110,916	4,414	19,544	76,966	9,992
1927	120,990	4,441	18,958	88,310	9,281
1928	122,638	5,671	19,152	86,965	10,850
1929	123,240	6,114	22,509	83,821	10,796
1930	108,684	5,444	20,785	72,107	10,348
1931	86,990	4,962	16,283	58,452	7,293
1932	87,090	5,006	14,931	59,830	7,323
1933	95,996	4,758	15,411	65,664	10,163
1934	110,284	5,146	17,503	76,217	11,418
1935	120,802	5,571	19,577	82,845	12,809
1936	145,020	6,327	25,147	99,305	14,241
1937	157,470	6,190	29,786	105,827	15,667
1938	158,546	5,766	31,671	105,629	15,480
1939	180,966	7,415	35,147	120,277	18,127
1940	209,258	7,130	39,018	141,593	21,517
1941	228,586	7,669	43,105	153,255	24,557
1942	252,576	7,873	47,839	168,409	28,455
1943	273,050	8,523	51,302	182,182	31,043
1944	292,268	8,989	55,687	195,598	31,994
1945	311,318	9,872	61,465	208,016	31,965
1946	348,292	11,207	64,940	233,470	38,675
1947	424,932	13,391	74,630	294,214	42,697
1949	515,604	16,211	90,159	350,941	58,293
1950	623,638	20,636	103,162	448,972	50,868
1951	706,880	23,990	115,330	488,515	79,044
1952	752,838	25,814	119,268	532,431	75,325
1953	821,608	28,918	132,271	576,488	83,931
1954	931,206	33,977	151,931	652,057	93,240
1955	992,136	41,880	163,577	693,251	93,428
1956	1,023,028	40,630	173,149	718,802	90,447
1957	1,102,854	48,149	187,289	769,559	97,857
1958	1,146,208	49,304	195,949	794,875	106,080
1959	1,223,632	49,847	201,791	829,071	142,922
1960	1,338,232	54,721	225,059	913,910	144,541
1961	1,436,380	59,052	241,403	963,443	172,482
1962	1,501,106	66,771	250,110	998,705	185,520
1963	1,724,188	73,184	274,845	1,150,869	225,290
1964	1,953,776	82,676	305,192	1,325,894	240,014
1965	2,131,297	96,809	337,014	1,410,933	286,541
1966	2,226,470	106,026	362,794	1,469,317	288,333
1967	2,300,510	107,653	362,667	1,525,535	304,655
1968	2,547,307	114,478	384,593	1,713,567	334,669
1969	2,927,826	130,698	438,999	1,973,711	384,418
1970	3,334,043	151,226	522,713	2,233,851	426,253

TABLE 6:77 ANNUAL SURPLUS-VALUE, CONSTANT 1984 DOLLARS
REVISED FACTORY PRODUCTION, 1923-70

	THOUSANDS NOMINAL DOLLARS	CONSUMER PRICE INDEX	THOUSANDS CONSTANT DOLLARS
1923	11,123	135	177,721
1924	11,449	137	180,259
1925	8,180	138	127,857
1926	9,992	139	155,056
1927	9,281	138	145,066
1928	10,850	138	169,590
1929	10,796	138	168,746
1930	10,348	135	165,338
1931	7,293	125	125,848
1932	7,323	115	137,354
1933	10,163	109	201,116
1934	11,418	111	221,880
1935	12,809	115	240,252
1936	14,241	119	258,133
1937	15,667	127	266,092
1938	15,480	131	254,888
1939	18,127	136	287,500
1940	21,517	142	326,846
1941	24,557	148	357,902
1942	28,455	152	403,799
1943	31,043	156	429,229
1944	31,994	159	434,032
1945	31,965	161	428,252
1946	38,675	162	514,945
1947	42,697	167	551,484
1949	58,293	184	683,357
1950	50,868	194	565,581
1951	79,044	216	789,345
1952	75,325	232	700,327
1953	83,931	243	745,017
1954	93,240	254	791,810
1955	93,428	260	775,097
1956	90,447	269	725,257
1957	97,857	275	767,555
1958	106,080	287	797,266
1959	142,922	298	1,034,509
1960	144,541	300	1,039,253
1961	172,482	306	1,215,832
1962	185,520	314	1,274,414
1963	225,290	320	1,518,592
1964	240,014	331	1,564,080
1965	286,541	343	1,801,950
1966	288,333	352	1,766,857
1967	304,655	373	1,761,771
1968	334,669	389	1,855,734
1969	384,418	409	2,027,357
1970	426,253	435	2,113,627

TABLE 6:78 ANNUAL SURPLUS-VALUE, CHANGE & % CHANGE
REVISED FACTORY PRODUCTION, 1923-70

	--THOUSANDS CONSTANT DOLLARS--					
		PR.	----INCREASE----		----DECREASE-----	
	TOTAL	TOTAL	NO.	%	NO.	%
1923	177,721					
1924	180,259	177,721	2,538	1.43		
1925	127,857	180,259			-52,402	-29.07
1926	155,056	127,857	27,199	21.27		
1927	145,066	155,056			-9,990	-6.44
1928	169,590	145,066	24,524	16.91		
1929	168,746	169,590			-844	-0.50
1930	165,338	168,746			-3,408	-2.02
1931	125,848	165,338			-39,490	-23.88
1932	137,354	125,848	11,506	9.14		
1933	201,116	137,354	63,762	46.42		
1934	221,880	201,116	20,764	10.32		
1935	240,252	221,880	18,373	8.28		
1936	258,133	240,252	17,881	7.44		
1937	266,092	258,133	7,959	3.08		
1938	254,888	266,092			-11,204	-4.21
1939	287,500	254,888	32,611	12.79		
1940	326,846	287,500	39,347	13.69		
1941	357,902	326,846	31,055	9.50		
1942	403,799	357,902	45,897	12.82		
1943	429,229	403,799	25,430	6.30		
1944	434,032	429,229	4,803	1.12		
1945	428,252	434,032			-5,780	-1.33
1946	514,945	428,252	86,693	20.24		
1947	551,484	514,945	36,539	7.10		
1949	683,357	551,484	131,873	23.91		
1950	565,581	683,357			-117,776	-17.23
1951	789,345	565,581	223,764	39.56		
1952	700,327	789,345			-89,018	-11.28
1953	745,017	700,327	44,691	6.38		
1954	791,810	745,017	46,792	6.28		
1955	775,097	791,810			-16,712	-2.11
1956	725,257	775,097			-49,840	-6.43
1957	767,555	725,257	42,298	5.83		
1958	797,266	767,555	29,711	3.87		
1959	1,034,509	797,266	237,243	29.76		
1960	1,039,253	1,034,509	4,745	0.46		
1961	1,215,832	1,039,253	176,578	16.99		
1962	1,274,414	1,215,832	58,583	4.82		
1963	1,518,592	1,274,414	244,178	19.16		
1964	1,564,080	1,518,592	45,488	3.00		
1965	1,801,950	1,564,080	237,870	15.21		
1966	1,766,857	1,801,950			-35,093	-1.95
1967	1,761,771	1,766,857			-5,086	-0.29
1968	1,855,734	1,761,771	93,963	5.33		
1969	2,027,357	1,855,734	171,623	9.25		
1970	2,113,627	2,027,357	86,269	4.26		

TABLE 6:79 SURPLUS-VALUE AFTER SHAIKH REVISED FACTORY PRODUCTION, 1923-70

	SURPLUS VALUE 1	GROSS INCOME NON PRODUCTIVE PERSONS	SHAIKH'S SURPLUS VALUE
1923	11,123	5,848	16,971
1924	11,449	6,923	18,372
1925	8,180	6,760	14,940
1926	9,992	9,196	19,188
1927	9,281	9,268	18,549
1928	10,850	9,382	20,232
1929	10,796	7,113	17,909
1930	10,348	6,363	16,711
1931	7,293	5,207	12,500
1932	7,323	5,481	12,804
1933	10,163	5,075	15,238
1934	11,418	5,337	16,755
1935	12,809	6,143	18,952
1936	14,241	6,895	21,136
1937	15,667	7,236	22,903
1938	15,480	7,623	23,103
1939	18,127	8,307	26,434
1940	21,517	9,034	30,551
1941	24,557	9,909	34,466
1942	28,455	10,639	39,094
1943	31,043	11,356	42,399
1944	31,994	12,227	44,221
1945	31,965	13,947	45,912
1946	38,675	15,705	54,380
1947	42,697	18,372	61,069
1949	58,293	19,713	78,006
1950	50,868	22,701	73,569
1951	79,044	25,105	104,150
1952	75,325	28,062	103,387
1953	83,931	30,696	114,627
1954	93,240	34,318	127,559
1955	93,428	38,821	132,249
1956	90,447	41,431	131,878
1957	97,857	44,977	142,834
1958	106,080	48,330	154,410
1959	142,922	52,172	195,095
1960	144,541	58,071	202,613
1961	172,482	62,909	235,391
1962	185,520	68,690	254,210
1963	225,290	76,072	301,362
1964	240,014	85,812	325,826
1965	286,541	95,302	381,843
1966	288,333	104,535	392,868
1967	304,655	107,562	412,217
1968	334,669	115,892	450,561
1969	384,418	131,824	516,242
1970	426,253	156,266	582,519

TABLE 6:80 SURPLUS-VALUE AFTER HAMPTON
REVISED FACTORY PRODUCTION, 1923-70

	NET OUTPUT	WAGES & SALARIES	HAMPTONS' SURPLUS VALUE
1923	31,807	24,662	7,145
1924	33,912	26,652	7,260
1925	32,048	28,754	3,294
1926	33,268	28,740	4,528
1927	31,764	28,226	3,538
1928	33,406	28,534	4,872
1929	34,199	29,622	4,577
1930	30,421	27,148	3,273
1931	23,245	21,490	1,755
1932	25,742	20,412	5,330
1933	28,916	20,486	8,430
1934	32,391	22,840	9,551
1935	36,617	25,720	10,897
1936	44,239	32,042	12,197
1937	50,473	37,022	13,451
1938	52,517	39,294	13,223
1939	60,117	43,454	16,663
1940	66,761	48,052	18,709
1941	74,541	53,014	21,527
1942	83,468	58,478	24,990
1943	89,869	62,658	27,211
1944	96,093	67,914	28,179
1945	103,354	75,412	27,942
1946	114,970	82,492	32,478
1947	130,600	95,764	34,836
1949	162,363	112,092	50,271
1950	169,771	128,900	40,871
1951	212,851	144,470	68,381
1952	215,333	150,672	64,661
1953	239,167	166,898	72,269
1954	271,152	190,396	80,756
1955	286,378	209,016	77,362
1956	291,996	214,580	77,416
1957	318,584	232,266	86,318
1958	338,782	248,660	90,122
1959	384,086	264,088	119,998
1960	413,250	292,408	120,842
1961	460,584	314,256	146,328
1962	485,800	330,484	155,316
1963	555,858	359,934	195,924
1964	607,808	402,534	205,274
1965	692,076	445,041	247,035
1966	725,167	481,560	243,607
1967	741,978	484,484	257,494
1968	799,909	516,327	283,582
1969	916,017	596,703	319,314
1970	1,059,535	720,864	338,671

TABLE 6:81 SURPLUS VALUE AFTER STEVEN & HOLLAND
REVISED FACTORY PRODUCTION, 1923-70

	VALUE ADDED IN MANUFACTURE	WAGES & SALARIES	STEVEN'S SURPLUS VALUE
1923	45,432	24,662	20,770
1924	48,590	26,652	21,938
1925	48,436	28,754	19,682
1926	50,546	28,740	21,806
1927	49,568	28,226	21,342
1928	53,224	28,534	24,690
1929	55,054	29,622	25,432
1930	50,390	27,148	23,242
1931	40,310	21,490	18,820
1932	38,948	20,412	18,536
1933	41,518	20,486	21,032
1934	46,064	22,840	23,224
1935	51,374	25,720	25,654
1936	61,080	32,042	29,038
1937	67,254	37,022	30,232
1938	68,262	39,294	28,968
1939	77,748	43,454	34,294
1940	85,988	48,052	37,936
1941	95,284	53,014	42,270
1942	105,226	58,478	46,748
1943	113,684	62,658	51,026
1944	121,316	67,914	53,402
1945	130,366	75,412	54,954
1946	144,684	82,492	62,192
1947	165,446	95,764	69,682
1949	202,050	112,092	89,958
1950	221,026	128,900	92,126
1951	267,880	144,470	123,410
1952	275,678	150,672	125,006
1953	308,932	166,898	142,034
1954	355,660	190,396	165,264
1955	386,052	209,016	177,036
1956	396,834	214,580	182,254
1957	434,858	232,266	202,592
1958	463,346	248,660	214,686
1959	513,246	264,088	249,158
1960	554,764	292,408	262,356
1961	615,884	314,256	301,628
1962	655,422	330,484	324,938
1963	740,130	359,934	380,196
1964	815,946	402,534	413,412
1965	928,216	445,041	483,175
1966	986,207	481,560	504,647
1967	1,014,032	484,484	529,548
1968	1,095,713	516,327	579,386
1969	1,252,927	596,703	656,224
1970	1,455,798	720,864	734,934

TABLE 6:82 SURPLUS-VALUE AFTER MANDEL
REVISED FACTORY PRODUCTION, 1923-70

	VALUE OF PRODUCT	SURPLUS VALUE	AVERAGE INCOME IS % SURPLUS	INSURANCE			"MANDELS'" SURPLUS VALUE
				TOTAL INCOME	SURP'S VALUE	PRESERVED VALUE	
1923	103,378	11,123	10.76	515	55	460	10,663
1924	117,410	11,449	9.75	513	50	463	10,986
1925	115,818	8,180	7.06	551	39	512	7,668
1926	110,916	9,992	9.01	525	47	478	9,514
1927	120,990	9,281	7.67	508	39	469	8,812
1928	122,638	10,850	8.85	518	46	472	10,378
1929	123,240	10,796	8.76	520	46	474	10,322
1930	108,684	10,348	9.52	479	46	433	9,915
1931	86,990	7,293	8.38	439	37	402	6,891
1932	87,090	7,323	8.41	421	35	386	6,937
1933	95,996	10,163	10.59	366	39	327	9,836
1934	110,284	11,418	10.35	435	45	390	11,028
1935	120,802	12,809	10.60	474	50	424	12,385
1936	145,020	14,241	9.82	540	53	487	13,754
1937	157,470	15,667	9.95	789	78	711	14,956
1938	158,546	15,480	9.76	942	92	850	14,630
1939	180,966	18,127	10.02	1,090	109	981	17,146
1940	209,258	21,517	10.28	1,235	127	1,108	20,409
1941	228,586	24,557	10.74	1,516	163	1,353	23,204
1942	252,576	28,455	11.27	1,903	214	1,689	26,766
1943	273,050	31,043	11.37	2,108	240	1,868	29,175
1944	292,268	31,994	10.95	1,997	219	1,778	30,216
1945	311,318	31,965	10.27	2,094	215	1,879	30,086
1946	348,292	38,675	11.10	2,292	255	2,037	36,637
1947	424,932	42,697	10.05	2,781	279	2,502	40,196

TABLE 6:82 SURPLUS-VALUE AFTER MANDEL
REVISED FACTORY PRODUCTION, 1923-70

	VALUE OF PRODUCT	SURPLUS VALUE	AVERAGE INCOME IS % SURPLUS	INSURANCE			"MANDELS'" SURPLUS VALUE
				TOTAL INCOME	SURP'S VALUE	PRESERVED VALUE	
1949	515,604	58,293	11.31	3,249	367	2,882	55,411
1950	623,638	50,868	8.16	3,773	308	3,465	47,403
1951	706,880	79,044	11.18	4,220	472	3,748	75,296
1952	752,838	75,325	10.01	4,652	465	4,187	71,138
1953	821,608	83,931	10.22	4,890	500	4,390	79,541
1954	931,206	93,240	10.01	5,182	519	4,663	88,577
1955	992,136	93,428	9.42	5,618	529	5,089	88,340
1956	1,023,028	90,447	8.84	5,962	527	5,435	85,012
1957	1,102,854	97,857	8.87	7,392	656	6,736	91,121
1958	1,146,208	106,080	9.25	6,648	615	6,033	100,048
1959	1,223,632	142,922	11.68	7,318	855	6,463	136,459
1960	1,338,232	144,541	10.80	8,264	893	7,371	137,170
1961	1,436,380	172,482	12.01	8,992	1,080	7,912	164,570
1962	1,501,106	185,520	12.36	9,892	1,223	8,669	176,850
1963	1,724,188	225,290	13.07	10,626	1,388	9,238	216,052
1964	1,953,776	240,014	12.28	11,762	1,445	10,317	229,697
1965	2,131,297	286,541	13.44	13,064	1,756	11,308	275,233
1966	2,226,470	288,333	12.95	14,500	1,878	12,622	275,711
1967	2,300,510	304,655	13.24	15,209	2,014	13,195	291,460
1968	2,547,307	334,669	13.14	16,016	2,104	13,912	320,757
1969	2,927,826	384,418	13.13	17,745	2,330	15,415	369,003
1970	3,334,043	426,253	12.78	20,985	2,683	18,302	407,951

TABLE 6:83 COMPARISON OF DIFFERENT CALCULATIONS OF SURPLUS VALUE
REVISED FACTORY PRODUCTION, 1923-70

	SURPLUS-VALUE AFTER						
		-STEVEN & HOLLAND-		------SHAIKH------		-----HAMPTON------	
	MANDEL	NO.	% MANDEL	NO.	% MANDEL	NO.	% MANDEL
1923	10,663	20,770	194.8	16,971	159.2	7,145	67.0
1924	10,986	21,938	199.7	18,372	167.2	7,260	66.1
1925	7,668	19,682	256.7	14,940	194.8	3,294	43.0
1926	9,514	21,806	229.2	19,188	201.7	4,528	47.6
1927	8,812	21,342	242.2	18,549	210.5	3,538	40.1
1928	10,378	24,690	237.9	20,232	194.9	4,872	46.9
1929	10,322	25,432	246.4	17,909	173.5	4,577	44.3
1930	9,915	23,242	234.4	16,711	168.5	3,273	33.0
1931	6,891	18,820	273.1	12,500	181.4	1,755	25.5
1932	6,937	18,536	267.2	12,804	184.6	5,330	76.8
1933	9,836	21,032	213.8	15,238	154.9	8,430	85.7
1934	11,028	23,224	210.6	16,755	151.9	9,551	86.6
1935	12,385	25,654	207.1	18,952	153.0	10,897	88.0
1936	13,754	29,038	211.1	21,136	153.7	12,197	88.7
1937	14,956	30,232	202.1	22,903	153.1	13,451	89.9
1938	14,630	28,968	198.0	23,103	157.9	13,223	90.4
1939	17,146	34,294	200.0	26,434	154.2	16,663	97.2
1940	20,409	37,936	185.9	30,551	149.7	18,709	91.7
1941	23,204	42,270	182.2	34,466	148.5	21,527	92.8
1942	26,766	46,748	174.7	39,094	146.1	24,990	93.4
1943	29,175	51,026	174.9	42,399	145.3	27,211	93.3
1944	30,216	53,402	176.7	44,221	146.4	28,179	93.3
1945	30,086	54,954	182.7	45,912	152.6	27,942	92.9
1946	36,637	62,192	169.8	54,380	148.4	32,478	88.6
1947	40,196	69,682	173.4	61,069	151.9	34,836	86.7

TABLE 6:83 COMPARISON OF DIFFERENT CALCULATIONS OF SURPLUS VALUE
REVISED FACTORY PRODUCTION, 1923-70

	SURPLUS-VALUE AFTER						
		-STEVEN & HOLLAND-		------SHAIKH------		-----HAMPTON------	
	MANDEL	NO.	% MANDEL	NO.	% MANDEL	NO.	% MANDEL
1949	55,411	89,958	162.3	78,006	140.8	50,271	90.7
1950	47,403	92,126	194.3	73,569	155.2	40,871	86.2
1951	75,296	123,410	163.9	104,150	138.3	68,381	90.8
1952	71,138	125,006	175.7	103,387	145.3	64,661	90.9
1953	79,541	142,034	178.6	114,627	144.1	72,269	90.9
1954	88,577	165,264	186.6	127,559	144.0	80,756	91.2
1955	88,340	177,036	200.4	132,249	149.7	77,362	87.6
1956	85,012	182,254	214.4	131,878	155.1	77,416	91.1
1957	91,121	202,592	222.3	142,834	156.8	86,318	94.7
1958	100,048	214,686	214.6	154,410	154.3	90,122	90.1
1959	136,459	249,158	182.6	195,095	143.0	119,998	87.9
1960	137,170	262,356	191.3	202,613	147.7	120,842	88.1
1961	164,570	301,628	183.3	235,391	143.0	146,328	88.9
1962	176,850	324,938	183.7	254,210	143.7	155,316	87.8
1963	216,052	380,196	176.0	301,362	139.5	195,924	90.7
1964	229,697	413,412	180.0	325,826	141.9	205,274	89.4
1965	275,233	483,175	175.6	381,843	138.7	247,035	89.8
1966	275,711	504,647	183.0	392,868	142.5	243,607	88.4
1967	291,460	529,548	181.7	412,217	141.4	257,494	88.3
1968	320,757	579,386	180.6	450,561	140.5	283,582	88.4
1969	369,003	656,224	177.8	516,242	139.9	319,314	86.5
1970	407,951	734,934	180.2	582,519	142.8	338,671	83.0

APPENDIX 7: MARXIAN VALUE RELATIONS

INTRODUCTORY REMARKS

As is discussed in the main text (chapter 4), marxist explanations for alterations in the level of economic activity are based on three ratios: the rate of profit; the ratio of surplus-value to constant and variable capital; the organic composition of capital; the ratio of constant to variable capital; and the rate of surplus-value (or exploitation), i.e. the ratio of surplus-value to variable capital.

Before either of the first two of these ratios can be calculated it is necessary to convert the annual capital flows (determined in Appendix 6) into capital stocks. The conceptual issues involved here are discussed in detail in the main text (chapter 5). Only so much is repeated here as allows the concept "stock of capital" to be operationalised.

A flow of capital is the volume outlaid over a given period of account, whereas a stock of capital is the average sum tied up at a point in time to keep production going. Bosses in Revised Factory Production must have on hand sufficient capital to pay wages, buy raw materials etc., until the revenue will cover expenditure.

APPENDIX 7: MARXIAN VALUE RELATIONS

To set up a business requires an investment fund that will (a) cover the costs of plant and equipment, (b) enable the purchase of raw materials and other productive expenses, and (c) pay employees to the point where sufficient income is being generated through payment for goods sold to cover the ongoing costs of (b) and (c).

The annual flow of capital exceeds the stock-level minimum capital investment by the number of times that this investment can be recovered in the year. Any alteration in the rate at which goods are circulated and distributed will alter the stock of capital required to continue producing them. In turn, any alteration in the stock level of capital has immediate effects on the rate of profit and the organic composition of capital.

The capital stock fund covers ongoing expenses during two crucial intervals: (1) the interval between the purchase of raw materials and labour power and the point at which the goods are sold; and (2) the interval between the point of sale and the point at which full payment is made.

Information relevant to (1) for the period from 1957 to 1970 is available from reports on

Manufacturers' Stocks, published as quarterly supplements to the Monthly Abstract of Statistics (MAS). Less adequate information is available in the annual reports of Factory Production Statistics for the period 1925 to 1947.

So far it has proved impossible to estimate capital tied up during the second interval. In respect of raw materials and other expenses it may be assumed that, in the long term, payments to and from factories tend cancel each other out, i.e. where wholesalers slip behind in making payments to manufacturers, the manufacturers slip behind in paying for raw materials etc.

This assumption does not hold for wage and salary payments which are made at fixed intervals independent of any delay in payment for goods sold. For this reason, and because short-term discrepancies between disbursements and revenue can appear, the estimates in this appendix are quite inexact. This inexactness has a counter-cyclical effect on the data, i.e. it reduces actual fluctuations, to the disadvantage of the marxist explanation (see chapter 6 of the main text).

The appendix is divided into four sections:
Section A: deals with the rate of surplus-value;

APPENDIX 7: MARXIAN VALUE RELATIONS

Section B: is used to estimate the turn-over time of circulating and variable capital; Section C: which calculates the organic composition and rate of profit on the basis of the estimates from Section B; and Section D: which shows the relations as calculated using the different sets of definition proposed by Shaikh, Hampton and Steven.

APPENDIX 7.A THE RATE OF EXPLOITATION

As is discussed in the main text (chapters 4 & 5) the rate of exploitation, also known as the rate of surplus-value (S/V), is the ratio of the paid to the unpaid labour worked by productive workers.

It is unnecessary to consider the distinction between capital stock and flow in calculating the rate of exploitation. For any given period, productive workers reproduce the value of the wage and produce new value. They do this anew, more-over, with each turn-over of the stock of variable capital. That bosses need maintain only a stock of variable capital does not enter into the estimation of the rate of exploitation.

This is not understood by McAra. He estimates the rate of surplus-value by (1) calculating the annual mass of surplus value and (2) setting this against wages for 5 weeks; his estimate of the stock of variable capital (Laws of the New Zealand Socialist Revolution, p93). This leads to the absurd conclusion, discussed in the main text (chapter 5), that productive work a negative number of necessary hours each week.

The only operation made in this section is to turn the values in Appendix 6, Section E into ratios. As was discussed there, even among persons who consider themselves marxists there is a diversity of opinion as to what constitutes variable capital and surplus-value.

APPENDIX 7.A THE RATE OF EXPLOITATION

Different definitions generate different magnitudes. Since the rate of exploitation is a relation between the two magnitudes this has obvious consequences on the levels of exploitation that will be struck. To illustrate the consequences of these different interpretations, the rate of surplus-value is estimated along the lines suggested by each set of definition.

Table 7:1 shows our own estimate. Table 7:2 calculates the ratio on the basis of Shaikh's definitions and 7:3 follows the terms in Hampton's discussion. Steven does not define the rate of exploitation. He defines surplus-value as Added-Value less the total annual wage bill. It is assumed here that he would set this against the wage bill, i.e., S/V = ((Added Value -Wages & Salaries Paid)/ Wages & Salaries Paid) and this is shown in 7:4. It may be that he would strike the ratio differently, perhaps relating "surplus-value" to Added-Value.

Table 7:5 brings the results of 7:1 to 7:4 together so they can be compared. 7:6 makes this comparison easier by calculating the ratios estimated for Shaikh, Hampton and Steven as percentages of our estimate. Table 7:7 shows the fluctuation in the rate of exploitation in 7:1 year by year. 7:8 repeats this operation for the rates calculated for Shaikh *et al*.

TABLE 7:1 THE RATE OF SURPLUS-VALUE
REVISED FACTORY PRODUCTION, 1923-70

	----NOM. $ 000---- VARIABLE CAPITAL	SURPLUS VALUE	S/V	SURPLUS PERCENT VARIABLE
1923	18,814	10,663	0.57	56.68
1924	19,729	10,986	0.56	55.68
1925	21,994	7,668	0.35	34.86
1926	19,544	9,514	0.49	48.68
1927	18,958	8,812	0.46	46.48
1928	19,152	10,378	0.54	54.19
1929	22,509	10,322	0.46	45.86
1930	20,785	9,915	0.48	47.70
1931	16,283	6,891	0.42	42.32
1932	14,931	6,937	0.46	46.46
1933	15,411	9,836	0.64	63.82
1934	17,503	11,028	0.63	63.01
1935	19,577	12,385	0.63	63.26
1936	25,147	13,754	0.55	54.69
1937	29,786	14,956	0.50	50.21
1938	31,671	14,630	0.46	46.19
1939	35,147	17,146	0.49	48.78
1940	39,018	20,409	0.52	52.31
1941	43,105	23,204	0.54	53.83
1942	47,839	26,766	0.56	55.95
1943	51,302	29,175	0.57	56.87
1944	55,687	30,216	0.54	54.26
1945	61,465	30,086	0.49	48.95
1946	64,940	36,637	0.56	56.42
1947	74,630	40,196	0.54	53.86
1949	90,159	55,411	0.61	61.46
1950	103,162	47,403	0.46	45.95
1951	115,330	75,296	0.65	65.29
1952	119,268	71,138	0.60	59.65
1953	132,271	79,541	0.60	60.13
1954	151,931	88,577	0.58	58.30
1955	163,577	88,340	0.54	54.00
1956	173,149	85,012	0.49	49.10
1957	187,289	91,121	0.49	48.65
1958	195,949	100,048	0.51	51.06
1959	201,791	136,459	0.68	67.62
1960	225,059	137,170	0.61	60.95
1961	241,403	164,570	0.68	68.17
1962	250,110	176,850	0.71	70.71
1963	274,845	216,052	0.79	78.61
1964	305,192	229,697	0.75	75.26
1965	337,014	275,233	0.82	81.67
1966	362,794	275,711	0.76	76.00
1967	362,667	291,460	0.80	80.37
1968	384,593	320,757	0.83	83.40
1969	438,999	369,003	0.84	84.06
1970	522,713	407,951	0.78	78.04

TABLE 7:2 RATE OF SURPLUS-VALUE AFTER SHAIKH
REVISED FACTORY PRODUCTION, 1923-70

	VARIABLE CAPITAL	SHAIKH'S SURPLUS VALUE	S/V	SURPLUS PERCENT VARIABLE
1923	18,814	16,971	0.90	90.20
1924	19,729	18,372	0.93	93.12
1925	21,994	14,940	0.68	67.93
1926	19,544	19,188	0.98	98.17
1927	18,958	18,549	0.98	97.84
1928	19,152	20,232	1.06	105.63
1929	22,509	17,909	0.80	79.56
1930	20,785	16,711	0.80	80.40
1931	16,283	12,500	0.77	76.77
1932	14,931	12,804	0.86	85.75
1933	15,411	15,238	0.99	98.88
1934	17,503	16,755	0.96	95.73
1935	19,577	18,952	0.97	96.81
1936	25,147	21,136	0.84	84.05
1937	29,786	22,903	0.77	76.89
1938	31,671	23,103	0.73	72.95
1939	35,147	26,434	0.75	75.21
1940	39,018	30,551	0.78	78.30
1941	43,105	34,466	0.80	79.96
1942	47,839	39,094	0.82	81.72
1943	51,302	42,399	0.83	82.64
1944	55,687	44,221	0.79	79.41
1945	61,465	45,912	0.75	74.69
1946	64,940	54,380	0.84	83.74
1947	74,630	61,069	0.82	81.83
1949	90,159	78,006	0.87	86.52
1950	103,162	73,569	0.71	71.31
1951	115,330	104,150	0.90	90.31
1952	119,268	103,387	0.87	86.68
1953	132,271	114,627	0.87	86.66
1954	151,931	127,559	0.84	83.96
1955	163,577	132,249	0.81	80.85
1956	173,149	131,878	0.76	76.16
1957	187,289	142,834	0.76	76.26
1958	195,949	154,410	0.79	78.80
1959	201,791	195,095	0.97	96.68
1960	225,059	202,613	0.90	90.03
1961	241,403	235,391	0.98	97.51
1962	250,110	254,210	1.02	101.64
1963	274,845	301,362	1.10	109.65
1964	305,192	325,826	1.07	106.76
1965	337,014	381,843	1.13	113.30
1966	362,794	392,868	1.08	108.29
1967	362,667	412,217	1.14	113.66
1968	384,593	450,561	1.17	117.15
1969	438,999	516,242	1.18	117.60
1970	522,713	582,519	1.11	111.44

TABLE 7:3 RATE OF SURPLUS-VALUE AFTER HAMPTON
REVISED FACTORY PRODUCTION, 1923-70

	WAGES & SALARIES	HAMPTONS' SURPLUS VALUE	S/V	SURPLUS PERCENT WAGES
1923	24,662	7,145	0.29	28.97
1924	26,652	7,260	0.27	27.24
1925	28,754	3,294	0.11	11.46
1926	28,740	4,528	0.16	15.76
1927	28,226	3,538	0.13	12.53
1928	28,534	4,872	0.17	17.07
1929	29,622	4,577	0.15	15.45
1930	27,148	3,273	0.12	12.06
1931	21,490	1,755	0.08	8.17
1932	20,412	5,330	0.26	26.11
1933	20,486	8,430	0.41	41.15
1934	22,840	9,551	0.42	41.82
1935	25,720	10,897	0.42	42.37
1936	32,042	12,197	0.38	38.07
1937	37,022	13,451	0.36	36.33
1938	39,294	13,223	0.34	33.65
1939	43,454	16,663	0.38	38.35
1940	48,052	18,709	0.39	38.93
1941	53,014	21,527	0.41	40.61
1942	58,478	24,990	0.43	42.73
1943	62,658	27,211	0.43	43.43
1944	67,914	28,179	0.41	41.49
1945	75,412	27,942	0.37	37.05
1946	82,492	32,478	0.39	39.37
1947	95,764	34,836	0.36	36.38
1949	112,092	50,271	0.45	44.85
1950	128,900	40,871	0.32	31.71
1951	144,470	68,381	0.47	47.33
1952	150,672	64,661	0.43	42.92
1953	166,898	72,269	0.43	43.30
1954	190,396	80,756	0.42	42.41
1955	209,016	77,362	0.37	37.01
1956	214,580	77,416	0.36	36.08
1957	232,266	86,318	0.37	37.16
1958	248,660	90,122	0.36	36.24
1959	264,088	119,998	0.45	45.44
1960	292,408	120,842	0.41	41.33
1961	314,256	146,328	0.47	46.56
1962	330,484	155,316	0.47	47.00
1963	359,934	195,924	0.54	54.43
1964	402,534	205,274	0.51	51.00
1965	445,041	247,035	0.56	55.51
1966	481,560	243,607	0.51	50.59
1967	484,484	257,494	0.53	53.15
1968	516,327	283,582	0.55	54.92
1969	596,703	319,314	0.54	53.51
1970	720,864	338,671	0.47	46.98

TABLE 7:4 RATE OF SURPLUS-VALUE AFTER STEVEN
REVISED FACTORY PRODUCTION, 1923-70

	WAGES & SALARIES	STEVEN'S SURPLUS VALUE	S/V	SURPLUS PERCENT WAGES
1923	24,662	20,770	0.84	84.22
1924	26,652	21,938	0.82	82.31
1925	28,754	19,682	0.68	68.45
1926	28,740	21,806	0.76	75.87
1927	28,226	21,342	0.76	75.61
1928	28,534	24,690	0.87	86.53
1929	29,622	25,432	0.86	85.86
1930	27,148	23,242	0.86	85.61
1931	21,490	18,820	0.88	87.58
1932	20,412	18,536	0.91	90.81
1933	20,486	21,032	1.03	102.67
1934	22,840	23,224	1.02	101.68
1935	25,720	25,654	1.00	99.74
1936	32,042	29,038	0.91	90.62
1937	37,022	30,232	0.82	81.66
1938	39,294	28,968	0.74	73.72
1939	43,454	34,294	0.79	78.92
1940	48,052	37,936	0.79	78.95
1941	53,014	42,270	0.80	79.73
1942	58,478	46,748	0.80	79.94
1943	62,658	51,026	0.81	81.44
1944	67,914	53,402	0.79	78.63
1945	75,412	54,954	0.73	72.87
1946	82,492	62,192	0.75	75.39
1947	95,764	69,682	0.73	72.76
1949	112,092	89,958	0.80	80.25
1950	128,900	92,126	0.71	71.47
1951	144,470	123,410	0.85	85.42
1952	150,672	125,006	0.83	82.97
1953	166,898	142,034	0.85	85.10
1954	190,396	165,264	0.87	86:80
1955	209,016	177,036	0.85	84.70
1956	214,580	182,254	0.85	84.94
1957	232,266	202,592	0.87	87.22
1958	248,660	214,686	0.86	86.34
1959	264,088	249,158	0.94	94.35
1960	292,408	262,356	0.90	89.72
1961	314,256	301,628	0.96	95.98
1962	330,484	324,938	0.98	98.32
1963	359,934	380,196	1.06	105.63
1964	402,534	413,412	1.03	102.70
1965	445,041	483,175	1.09	108.57
1966	481,560	504,647	1.05	104.79
1967	484,484	529,548	1.09	109.30
1968	516,327	579,386	1.12	112.21
1969	596,703	656,224	1.10	109.97
1970	720,864	734,934	1.02	101.95

TABLE 7:5 COMPARISON RATES OF SURPLUS-VALUE
REVISED FACTORY PRODUCTION, 1923-70

	-----RATES OF SURPLUS VALUE-----			
	PEARCE	SHAIKH	HAMPTON	STEVEN
1923	0.57	0.90	0.29	0.84
1924	0.56	0.93	0.27	0.82
1925	0.35	0.68	0.11	0.68
1926	0.49	0.98	0.16	0.76
1927	0.46	0.98	0.13	0.76
1928	0.54	1.06	0.17	0.87
1929	0.46	0.80	0.15	0.86
1930	0.48	0.80	0.12	0.86
1931	0.42	0.77	0.08	0.88
1932	0.46	0.86	0.26	0.91
1933	0.64	0.99	0.41	1.03
1934	0.63	0.96	0.42	1.02
1935	0.63	0.97	0.42	1.00
1936	0.55	0.84	0.38	0.91
1937	0.50	0.77	0.36	0.82
1938	0.46	0.73	0.34	0.74
1939	0.49	0.75	0.38	0.79
1940	0.52	0.78	0.39	0.79
1941	0.54	0.80	0.41	0.80
1942	0.56	0.82	0.43	0.80
1943	0.57	0.83	0.43	0.81
1944	0.54	0.79	0.41	0.79
1945	0.49	0.75	0.37	0.73
1946	0.56	0.84	0.39	0.75
1947	0.54	0.82	0.36	0.73
1949	0.61	0.87	0.45	0.80
1950	0.46	0.71	0.32	0.71
1951	0.65	0.90	0.47	0.85
1952	0.60	0.87	0.43	0.83
1953	0.60	0.87	0.43	0.85
1954	0.58	0.84	0.42	0.87
1955	0.54	0.81	0.37	0.85
1956	0.49	0.76	0.36	0.85
1957	0.49	0.76	0.37	0.87
1958	0.51	0.79	0.36	0.86
1959	0.68	0.97	0.45	0.94
1960	0.61	0.90	0.41	0.90
1961	0.68	0.98	0.47	0.96
1962	0.71	1.02	0.47	0.98
1963	0.79	1.10	0.54	1.06
1964	0.75	1.07	0.51	1.03
1965	0.82	1.13	0.56	1.09
1966	0.76	1.08	0.51	1.05
1967	0.80	1.14	0.53	1.09
1968	0.83	1.17	0.55	1.12
1969	0.84	1.18	0.54	1.10
1970	0.78	1.11	0.47	1.02

TABLE 7:6 SHAIKH, HAMPTON & STEVEN RATE OF SURPLUS-VALUE AS PERCENTAGE OF PEARCE

		-----PERCENT PEARCE-----		
	PEARCE	SHAIKH	HAMPTON	STEVEN
1923	0.57	159.15	51.12	148.59
1924	0.56	167.23	48.92	147.82
1925	0.35	194.83	32.86	196.34
1926	0.49	201.67	32.36	155.86
1927	0.46	210.50	26.97	162.67
1928	0.54	194.95	31.51	159.69
1929	0.46	173.51	33.70	187.23
1930	0.48	168.55	25.27	179.48
1931	0.42	181.40	19.30	206.94
1932	0.46	184.56	56.20	195.44
1933	0.64	154.93	64.47	160.86
1934	0.63	151.93	66.37	161.38
1935	0.63	153.02	66.97	157.66
1936	0.55	153.67	69.60	165.69
1937	0.50	153.13	72.36	162.63
1938	0.46	157.92	72.85	159.59
1939	0.49	154.17	78.61	161.78
1940	0.52	149.69	74.44	150.93
1941	0.54	148.54	75.43	148.12
1942	0.56	146.06	76.38	142.88
1943	0.57	145.33	76.37	143.20
1944	0.54	146.35	76.47	144.92
1945	0.49	152.60	75.70	148.88
1946	0.56	148.43	69.79	133.63
1947	0.54	151.93	67.54	135.10
1949	0.61	140.78	72.97	130.58
1950	0.46	155.20	69.00	155.54
1951	0.65	138.32	72.50	130.84
1952	0.60	145.33	71.95	139.10
1953	0.60	144.11	72.01	141.52
1954	0.58	144.01	72.75	148.88
1955	0.54	149.71	68.54	156.84
1956	0.49	155.13	73.48	172.99
1957	0.49	156.75	76.39	179.28
1958	0.51	154.34	70.98	169.10
1959	0.68	142.97	67.19	139.52
1960	0.61	147.71	67.81	147.21
1961	0.68	143.03	68.30	140.79
1962	0.71	143.74	66.46	139.05
1963	0.79	139.49	69.25	134.37
1964	0.75	141.85	67.76	136.46
1965	0.82	138.73	67.97	132.94
1966	0.76	142.49	66.57	137.89
1967	0.80	141.43	66.13	136.01
1968	0.83	140.47	65.85	134.55
1969	0.84	139.90	63.66	130.84
1970	0.78	142.79	60.20	130.63

TABLE 7:7 FLUCTUATIONS IN THE RATE OF SURPLUS-VALUE
REVISED FACTORY PRODUCTION, 1923-70

	TOTAL	PR. TOTAL	--INCREASE-- NO.	%	---DECREASE--- NO.	%
1923	0.57					
1924	0.56	0.57			-0.01	-1.75
1925	0.35	0.56			-0.21	-37.39
1926	0.49	0.35	0.14	39.63		
1927	0.46	0.49			-0.02	-4.52
1928	0.54	0.46	0.08	16.57		
1929	0.46	0.54			-0.08	-15.37
1930	0.48	0.46	0.02	4.02		
1931	0.42	0.48			-0.05	-11.28
1932	0.46	0.42	0.04	9.79		
1933	0.64	0.46	0.17	37.36		
1934	0.63	0.64			-0.01	-1.28
1935	0.63	0.63	0.00	0.41		
1936	0.55	0.63			-0.09	-13.55
1937	0.50	0.55			-0.04	-8.19
1938	0.46	0.50			-0.04	-8.00
1939	0.49	0.46	0.03	5.61		
1940	0.52	0.49	0.04	7.22		
1941	0.54	0.52	0.02	2.92		
1942	0.56	0.54	0.02	3.94		
1943	0.57	0.56	0.01	1.64		
1944	0.54	0.57			-0.03	-4.59
1945	0.49	0.54			-0.05	-9.79
1946	0.56	0.49	0.07	15.26		
1947	0.54	0.56			-0.03	-4.53
1949	0.61	0.54	0.08	14.11		
1950	0.46	0.61			-0.16	-25.24
1951	0.65	0.46	0.19	42.08		
1952	0.60	0.65			-0.06	-8.64
1953	0.60	0.60	0.00	0.82		
1954	0.58	0.60			-0.02	-3.05
1955	0.54	0.58			-0.04	-7.37
1956	0.49	0.54			-0.05	-9.09
1957	0.49	0.49			-0.00	-0.91
1958	0.51	0.49	0.02	4.94		
1959	0.68	0.51	0.17	32.45		
1960	0.61	0.68			-0.07	-9.87
1961	0.68	0.61	0.07	11.85		
1962	0.71	0.68	0.03	3.72		
1963	0.79	0.71	0.08	11.17		
1964	0.75	0.79			-0.03	-4.26
1965	0.82	0.75	0.06	8.51		
1966	0.76	0.82			-0.06	-6.94
1967	0.80	0.76	0.04	5.75		
1968	0.83	0.80	0.03	3.78		
1969	0.84	0.83	0.01	0.78		
1970	0.78	0.84			-0.06	-7.20

TABLE 7.8 FLUCTUATIONS IN S/V AFTER SHAIKH, HAMPTON & STEVEN
REVISED FACTORY PRODUCTION, 1923-70

	SHAIKH			HAMPTON			STEVEN		
	TOTAL	PR. TOTAL	% CHANGE	TOTAL	PR. TOTAL	% CHANGE	TOTAL	PR. TOTAL	% CHANGE
1923	159.15			51.12			148.59		
1924	167.23	159.15	5.08	48.92	51.12	-4.30	147.82	148.59	-0.52
1925	194.83	167.23	16.51	32.86	48.92	-32.83	196.34	147.82	32.82
1926	201.67	194.83	3.51	32.36	32.86	-1.51	155.86	196.34	-20.62
1927	210.50	201.67	4.38	26.97	32.36	-16.68	162.67	155.86	4.37
1928	194.95	210.50	-7.39	31.51	26.97	16.85	159.69	162.67	-1.83
1929	173.51	194.95	-11.00	33.70	31.51	6.93	187.23	159.69	17.25
1930	168.55	173.51	-2.86	25.27	33.70	-24.99	179.48	187.23	-4.14
1931	181.40	168.55	7.62	19.30	25.27	-23.65	206.94	179.48	15.30
1932	184.56	181.40	1.74	56.20	19.30	191.22	195.44	206.94	-5.56
1933	154.93	184.56	-16.06	64.47	56.20	14.72	160.86	195.44	-17.70
1934	151.93	154.93	-1.93	66.37	64.47	2.94	161.38	160.86	0.32
1935	153.02	151.93	0.72	66.97	66.37	0.91	157.66	161.38	-2.30
1936	153.67	153.02	0.42	69.60	66.97	3.92	165.69	157.66	5.10
1937	153.13	153.67	-0.35	72.36	69.60	3.96	162.63	165.69	-1.85
1938	157.92	153.13	3.13	72.85	72.36	0.68	159.59	162.63	-1.87
1939	154.17	157.92	-2.38	78.61	72.85	7.90	161.78	159.59	1.37
1940	149.69	154.17	-2.90	74.44	78.61	-5.30	150.93	161.78	-6.70
1941	148.54	149.69	-0.77	75.43	74.44	1.34	148.12	150.93	-1.87
1942	146.06	148.54	-1.67	76.38	75.43	1.25	142.88	148.12	-3.54
1943	145.33	146.06	-0.50	76.37	76.38	-0.02	143.20	142.88	0.23
1944	146.35	145.33	0.71	76.47	76.37	0.14	144.92	143.20	1.20
1945	152.60	146.35	4.27	75.70	76.47	-1.01	148.88	144.92	2.73
1946	148.43	152.60	-2.73	69.79	75.70	-7.81	133.63	148.88	-10.24
1947	151.93	148.43	2.36	67.54	69.79	-3.22	135.10	133.63	1.10

TABLE 7.8 FLUCTUATIONS IN S/V AFTER SHAIKH, HAMPTON & STEVEN
REVISED FACTORY PRODUCTION, 1923-70

	SHAIKH			HAMPTON			STEVEN		
	TOTAL	PR. TOTAL	% CHANGE	TOTAL	PR. TOTAL	% CHANGE	TOTAL	PR. TOTAL	% CHANGE
1949	140.78	151.93	-7.34	72.97	67.54	8.04	130.58	135.10	-3.35
1950	155.20	140.78	10.24	69.00	72.97	-5.44	155.54	130.58	19.12
1951	138.32	155.20	-10.88	72.50	69.00	5.06	130.84	155.54	-15.88
1952	145.33	138.32	5.07	71.95	72.50	-0.76	139.10	130.84	6.31
1953	144.11	145.33	-0.84	72.01	71.95	0.08	141.52	139.10	1.74
1954	144.01	144.11	-0.07	72.75	72.01	1.03	148.88	141.52	5.20
1955	149.71	144.01	3.96	68.54	72.75	-5.80	156.84	148.88	5.34
1956	155.13	149.71	3.62	73.48	68.54	7.22	172.99	156.84	10.30
1957	156.75	155.13	1.05	76.39	73.48	3.95	179.28	172.99	3.63
1958	154.34	156.75	-1.54	70.98	76.39	-7.07	169.10	179.28	-5.68
1959	142.97	154.34	-7.37	67.19	70.98	-5.34	139.52	169.10	-17.49
1960	147.71	142.97	3.32	67.81	67.19	0.91	147.21	139.52	5.51
1961	143.03	147.71	-3.17	68.30	67.81	0.73	140.79	147.21	-4.36
1962	143.74	143.03	0.50	66.46	68.30	-2.69	139.05	140.79	-1.24
1963	139.49	143.74	-2.96	69.25	66.46	4.18	134.37	139.05	-3.36
1964	141.85	139.49	1.70	67.76	69.25	-2.15	136.46	134.37	1.55
1965	138.73	141.85	-2.20	67.97	67.76	0.31	132.94	136.46	-2.58
1966	142.49	138.73	2.71	66.57	67.97	-2.06	137.89	132.94	3.73
1967	141.43	142.49	-0.74	66.13	66.57	-0.65	136.01	137.89	-1.37
1968	140.47	141.43	-0.68	65.85	66.13	-0.42	134.55	136.01	-1.07
1969	139.90	140.47	-0.40	63.66	65.85	-3.32	130.84	134.55	-2.76
1970	142.79	139.90	2.07	60.20	63.66	-5.44	130.63	130.84	-0.16

APPENDIX 7.B

7.B [STOCKS, FLOWS AND] THE ROTATION OF CAPITAL

This section is divided into three parts: part 1: deals with data taken from MAS and covers the period 1957 to 1970; part 2: deals with data from Factory Production Statistics and covers the period 1923 to 1956; values are estimated for the periods 1923-24 and 1949 to 1956 because no relevant data are reported in official statistics for these years.

PART 1

"... [Quarterly Manufacturers'] stock statistics have been estimated from a sample of factories based originally on the 1956-57 Census of Manufacturing. Following the completion of the 1959-60 Census of Manufacturing revised sample design and estimation methods were employed to produce estimates of total manufacturers' stocks as at 30th June 1961.

"Following from the improvements in both the coverage of the sample and in the basic sample methods employed, a revision of the statistics for previous periods was carried out and revised national totals are included ... [reproduced here in Table 7:9].

"The number of establishments included in the new

sample was increased from 900 to 1050 and their combined stock as returned in the annual survey for 1959-60 represented approximately 75% in value of total manufacturers' stocks". (MAS, December 1970)

Survey results report the value of manufacturers' stocks in two parts; (1) raw materials plus other productive expenses and (2) the value of unsold finished goods. To extrapolate from these the stock level of circulating capital, the value of the finished goods must be broken down to: constant capital: (a) fixed (depreciation); and (b) circulating capital: (raw materials + other productive expenses + wages of non-productive workers); (c) variable capital: wages and salaries (of productive workers); and (d) surplus-value. Deducting the surplus-value, depreciation and the variable capital content of finished goods leaves the circulating capital remainder (b). The entire stock of circulating capital is estimated by adding (1) to (b).

The stock of variable capital is estimated by adding to (c) seven weeks wages for productive workers ((annual variable capital/52)*7). This estimate assumes that all stock on hand at the end of the first month will be sold during the following month and that payment will be made on the 20th day after the month of

purchase, i.e. it assumes the market will be cleared and that standard business conventions will be maintained.

To estimate the wage & salary outlay incorporated in finished goods, a ratio is struck between the annual value of production and the annual flow of variable capital i.e. every X units of product contain Y units of variable capital. By replacing the X in the equation with the known value of unsold finished goods, the approximate proportion of the variable capital content of those goods can be estimated.

The fixed constant capital and surplus-value components are isolated using the appropriate variables and following the same general principles, (Value of Finished Goods in Stock/ ((Value of Product/ (Repairs & Maintenance + Depreciation)) and (Value of Finished Goods in Stock/(Value of Product/surplus-value).

These operations yield the capital stock levels for circulating constant and variable capital at 30th September each year. Dividing the annual flows by these levels yields the number of turn-overs (cycles) each year. From there it is quite simple to estimate year to year changes in the number of cycles for each.

APPENDIX 7.B

The length of the cycle for circulating and variable capital will obviously not only fluctuate between years. During the year there will be speed-ups and slow-downs. In part these will reflect seasonal fluctuations peculiar to New Zealand (processing of foodstuffs coincides with harvests, and so on). Seasonally adjusted figures are available from 1963. They are not used here because it would shorten the time series to only eight years. In our calculations September quarter figures are used only because the first survey is dated 30th September 1957. Using the third quarter makes possible a 14 years series.

Tables 7:9 & 7:10 report the data from MAS. In 7:11 the value of Finished Goods is distributed to its various capital fractions. In 7:12 the stock of circulating capital is estimated by adding circulating capital in finished goods to materials in stock. This sum is divided into the annual flow to estimate the number of cycles of circulating capital per year.

7:13 repeats these operations for variable capital. Here the variable capital content is added to the wages of productive workers for seven weeks. In 7:14 the values generated above are used to estimate the rate of profit and the organic composition of capital.

TABLE 7:9 MANUFACTURERS' STOCKS AT 30TH SEPTEMBER
N.Z. FACTORY PRODUCTION, 1957-70

	-THOUSANDS OF NOMINAL POUNDS--			-MILLIONS OF NOMINAL DOLLARS--		
	FINISHED GOODS	MATERIALS	TOTAL	FINISHED GOODS	MATERIALS	TOTAL
1957	46,473	71,247	117,620	92.9	142.5	235.2
1958	44,885	82,719	127,604	89.8	165.4	255.2
1959	48,875	83,231	132,106	97.8	166.5	264.2
1960	47,894	85,621	133,514	95.8	171.2	267.0
1961	51,032	97,750	148,781	102.1	195.5	297.6
1962	50,568	93,991	144,559	101.1	188.0	289.1
1963				109.9	208.7	318.6
1964				121.6	223.4	345.5
1965				143.1	243.5	386.6
1966				158.8	272.3	431.1
1967				186.8	287.2	474.0
1968				215.6	290.9	506.5
1969				225.8	340.6	566.4
1970				256.0	379.7	635.7

TABLE 7:10 MANUFACTURERS' STOCKS AT 30TH SEPTEMBER
REVISED FACTORY PRODUCTION, 1957-70

	-----FACTORY PRODUCTION-----			------DAIRY FACTORIES-------			--REV. FACTORY PRODUCTION---		
	FINISHED GOODS	MATERIALS	TOTAL	FINISHED GOODS	MATERIALS	TOTAL	FINISHED GOODS	MATERIALS	TOTAL
YEAR									
1957	92.95	142.49	235.24	13.87	2.02	15.89	79.1	140.5	219.4
1958	89.77	165.44	255.21	15.43	2.30	17.73	74.3	163.1	237.5
1959	97.75	166.46	264.21	16.24	2.21	18.45	81.5	164.3	245.8
1960	95.79	171.24	267.03	18.70	2.33	21.03	77.1	168.9	246.0
1961	102.06	195.50	297.56	17.91	2.37	20.28	84.2	193.1	277.3
1962	101.14	187.98	289.12	14.74	2.36	17.10	86.4	185.6	272.0
1963	109.90	208.70	318.60	15.69	2.61	18.30	94.2	206.1	300.3
1964	121.60	223.40	345.50	17.88	2.19	20.07	103.7	221.2	325.4
1965	143.10	243.50	386.60	19.74	2.39	22.13	123.4	241.1	364.5
1966	158.80	272.30	431.10	14.21	3.78	17.99	144.6	268.5	413.1
1967	186.80	287.20	474.00	18.52	3.40	21.92	168.3	283.8	452.1
1968	215.60	290.90	506.50	21.77	3.47	25.24	193.8	287.4	481.3
1969	225.80	340.60	566.40	17.47	4.08	21.55	208.3	336.5	544.9
1970	256.00	379.70	635.70	21.27	4.14	25.41	234.7	375.6	610.3

TABLE 7:11 CIRCULATING & VARIABLE CAPITAL IN STOCK ON HAND
REVISED FACTORY PRODUCTION, 1957-70

	VALUE OF FINISHED GOODS	VALUE OF PRODUCT	------PRESERVED VALUE------- FIXED CAPITAL	VAR'BLE CAPITAL	CIRC'ING CAPITAL	SURPLUS VALUE	--% OF VALUE OF PRODUCT--- FIX. CAP.	VAR. CAP.	CIRC CAP.	SURP VAL.	-----VALUE IN FINISHED GOODS----- ----PRESERVED CAPITAL---- FIXED	VAR'BLE	CIRC'G	NEW VALUE
1957	79,100	1,102,854	48,149	187,289	769,559	97,857	4.37	16.98	69.78	8.87	3,453	13,433	55,195	7,019
1958	74,300	1,146,208	49,304	195,949	794,875	106,080	4.30	17.10	69.35	9.25	3,196	12,702	51,526	6,876
1959	81,500	1,223,632	49,847	201,791	829,071	142,922	4.07	16.49	67.75	11.68	3,320	13,440	55,220	9,519
1960	77,100	1,338,232	54,721	225,059	913,910	144,541	4.09	16.82	68.29	10.80	3,153	12,966	52,653	8,328
1961	84,200	1,436,380	59,052	241,403	963,443	172,482	4.11	16.81	67.07	12.01	3,462	14,151	56,477	10,111
1962	86,400	1,501,106	66,771	250,110	998,705	185,520	4.45	16.66	66.53	12.36	3,843	14,396	57,483	10,678
1963	94,200	1,724,188	73,184	274,845	1,150,869	225,290	4.24	15.94	66.75	13.07	3,998	15,016	62,877	12,309
1964	103,700	1,953,776	82,676	305,192	1,325,894	240,014	4.23	15.62	67.86	12.28	4,388	16,199	70,374	12,739
1965	123,400	2,131,297	96,809	337,014	1,410,933	286,541	4.54	15.81	66.20	13.44	5,605	19,513	81,692	16,590
1966	144,600	2,226,470	106,026	362,794	1,469,317	288,333	4.76	16.29	65.99	12.95	6,886	23,562	95,426	18,726
1967	168,300	2,300,510	107,653	362,667	1,525,535	304,655	4.68	15.76	66.31	13.24	7,876	26,532	111,605	22,288
1968	193,800	2,547,307	114,478	384,593	1,713,567	334,669	4.49	15.10	67.27	13.14	8,710	29,260	130,369	25,462
1969	208,300	2,927,826	130,698	438,999	1,973,711	384,418	4.46	14.99	67.41	13.13	9,299	31,233	140,420	27,349
1970	234,700	3,334,043	151,226	522,713	2,233,851	426,253	4.54	15.68	67.00	12.78	10,646	36,796	157,252	30,006

TABLE 7:12 ANNUAL CYCLES OF CIRCULATING CAPITAL
REVISED FACTORY PRODUCTION, 1957-70

	ANNUAL FLOW CIRCULATING CAPITAL	---CIRCULATING CAPITAL IN STOCK---- FINISHED GOODS	MATERIALS	TOTAL	ANNUAL ROTATIONS OF CIRCULATING CAPITAL STOCK
1957	769,559	55,195	140,470	195,665	3.93
1958	794,875	51,526	163,140	214,666	3.70
1959	829,071	55,220	164,250	219,470	3.78
1960	913,910	52,653	168,910	221,563	4.12
1961	963,443	56,477	193,130	249,607	3.86
1962	998,705	57,483	185,620	243,103	4.11
1963	1,150,869	62,877	206,090	268,967	4.28
1964	1,325,894	70,374	221,210	291,584	4.55
1965	1,410,933	81,692	241,110	322,802	4.37
1966	1,469,317	95,426	268,520	363,946	4.04
1967	1,525,535	111,605	283,800	395,405	3.86
1968	1,713,567	130,369	287,430	417,799	4.10
1969	1,973,711	140,420	336,520	476,940	4.14
1970	2,233,851	157,252	375,560	532,812	4.19

TABLE 7:13 ANNUAL CYCLES OF VARIABLE CAPITAL
REVISED FACTORY PRODUCTION, 1923-70

	VARIABLE CAPITAL				ANNUAL ROTATIONS OF VARIABLE CAPITAL
	ANNUAL FLOW	FOR SEVEN WEEKS	FINISHED GOODS	STOCK	
1957	187,289	25,212	13,433	38,645	4.85
1958	195,949	26,378	12,702	39,080	5.01
1959	201,791	27,164	13,440	40,605	4.97
1960	225,059	30,296	12,966	43,263	5.20
1961	241,403	32,497	14,151	46,648	5.18
1962	250,110	33,669	14,396	48,064	5.20
1963	274,845	36,998	15,016	52,014	5.28
1964	305,192	41,084	16,199	57,282	5.33
1965	337,014	45,367	19,513	64,880	5.19
1966	362,794	48,838	23,562	72,400	5.01
1967	362,667	48,821	26,532	75,352	4.81
1968	384,593	51,772	29,260	81,032	4.75
1969	438,999	59,096	31,233	90,329	4.86
1970	522,713	70,365	36,796	107,162	4.88

TABLE 7:14 ORGANIC COMPOSITION AND RATE OF PROFIT
REVISED FACTORY PRODUCTION, 1923-70

	STOCKS OF CAPITAL				TOTAL		RATE OF	ORGANIC
	CONSTANT CAPITAL			VARIABLE	CAPITAL	SURPLUS	PROFIT	COMPOSITION
	FIXED	CIRCULATING	TOTAL	CAPITAL	STOCK	VALUE	%	OF CAPITAL
1957	347,932	195,665	543,597	38,645	582,242	91,121	15.65	14.07
1958	380,312	214,666	594,978	39,080	634,057	100,048	15.78	15.22
1959	413,496	219,470	632,966	40,605	673,571	136,459	20.26	15.59
1960	466,824	221,563	688,387	43,263	731,650	137,170	18.75	15.91
1961	528,496	249,607	778,103	46,648	824,750	164,570	19.95	16.68
1962	601,190	243,103	844,293	48,064	892,357	176,850	19.82	17.57
1963	641,438	268,967	910,405	52,014	962,419	216,052	22.45	17.50
1964	712,234	291,584	1,003,818	57,282	1,061,100	229,697	21.65	17.52
1965	809,362	322,802	1,132,164	64,880	1,197,044	275,233	22.99	17.45
1966	899,603	363,946	1,263,549	72,400	1,335,949	275,711	20.64	17.45
1967	936,667	395,405	1,332,072	75,352	1,407,424	291,460	20.71	17.68
1968	985,315	417,799	1,403,114	81,032	1,484,146	320,757	21.61	17.32
1969	1,151,314	476,940	1,628,254	90,329	1,718,582	369,003	21.47	18.03
1970	1,261,454	532,812	1,794,266	107,162	1,901,428	407,951	21.45	16.74

APPENDIX7.B: PART TWO

PART TWO

For the period 1925 to 1947 the annual results of the Factory Production surveys report a figure for the combined value of Materials, Stocks in Process, Stocks of Fuel and Miscellaneous Supplies. This figure covers the same qualities as those entered as Total in the reports of Manufacturers' Stocks in MAS. It is impossible, however, to distinguish, in the reports of Factory Production, between the value of Finished Goods and Materials as is possible in the MAS reports.

No data are available in official reports for 1923 & 1924 or 1949 to 1956. The task of this Part is to (1) estimate data for years where data is missing, and (2) to estimate the different capital flows in the combined total "Materials, Stocks in Process" etc. The reported values are shown in Table 7.15 where the values for activities dropped from Revised Factory Production are excluded.

Table 7:16 estimates a value for "Materials, Stocks in Process" (ESTIMATED STOCK, ETC) for years where data is missing. This is done by (a) calculating the known values for "Materials, Stocks in Process" etc as a percentage of the combined annual flows of circulating and variable capital, (b) striking the

average of this percentage for all available years, and (c) obtaining estimated values by calculating this percentage as a fraction of the combined totals for circulating and variable capital. To estimate the likely margin of error in this procedure the deviation from the average is calculated for all years where data are reported (DEV'N FROM AVERAGE).

Table 7:17 shows the estimation of values for Finished Goods: (a): The fraction of Finished Goods in Total is calculated for the data from MAS; (b): these fractions are summed and divided by the number of years to find the average; and (c): the average fraction is taken out of "Materials, Stocks in Process" etc, as the value of Finished Goods in stock.

Table 7:18 calculates the various fractions of capital in the estimated value of Finished Goods following exactly the same procedure as was discussed in Part One for Table 7:11. Table 7:19 brings together the estimated circulating capital content from Finished Goods and the fraction remaining in "Materials, Stocks in Process" etc, after estimated Finished Goods had been taken out, as the stock of circulating capital.

This total does not represent the total stock of circulating capital since no allowance has been made

for the sum required to pay non productive workers. This adjustment is made in Table 7:22. Table 7:20 shows the estimated number of cycles of circulating capital each year. This figure is obtained by dividing the annual flow of circulating capital by the stock of circulating capital as determined in 7:19.

Table 7:21 estimates the stock and number of cycles of variable capital each year following the same procedure as used in 7:13. 7:22 estimates the annual stock and cycles per year of constant capital.

Sources for data are the relevant annual reports, pages as follows: for 1925 to 1928: pp13-15; for 1929 & 1930: pp12-14; for 1931 to 1943: pp13-15; for 1944 & 1945: pp23; for 1946 & 1947: pp18-21.

TABLE 7:15 MATERIALS, STOCKS IN PROCESS, STOCKS OF FUEL & MISCELLANEOUS SUPPLIES, REV. FACTORY PRODUCTION, 1925-1947

	NOMINAL POUNDS					THOUSANDS
	MANUFACTURE	GAS	ELECTRICITY	DAIRY FACTORIES	REV. FACTORY PRODUCTION	NOMINAL DOLLARS
1923						
1924						
1925	10,100,215			1,385,241	8,714,974	17,430
1926	11,036,098			929,600	10,106,498	20,213
1927	10,779,290			813,045	9,966,245	19,932
1928	10,897,749			594,263	10,303,486	20,607
1929	11,431,884		232,612	476,505	10,722,767	21,446
1930	10,807,847		327,702	559,153	9,920,992	19,842
1931	9,504,603		340,050	421,318	8,743,235	17,486
1932	9,387,467		307,335	455,856	8,624,276	17,249
1933	9,825,032		713,899	423,121	8,688,012	17,376
1934	10,773,847		707,170	357,905	9,708,772	19,418
1935	11,696,849		850,990	331,383	10,514,476	21,029
1936	13,121,800		915,818	314,695	11,891,287	23,783
1937	15,214,115		928,703	383,907	13,901,505	27,803
1938	15,220,564		1,102,488	428,350	13,689,726	27,379
1939	17,615,554		1,267,025	473,783	15,874,746	31,749
1940	22,360,740		1,401,919	721,774	20,237,047	40,474
1941	24,598,904		1,671,043	968,133	21,959,728	43,919
1942	26,041,036		1,772,838	1,020,166	23,248,032	46,496
1943	29,543,244		1,912,965	983,188	26,647,091	53,294
1944	30,805,775	162,671	2,183,991	757,626	27,701,487	55,403
1945	32,557,087	167,564	2,419,376	867,069	29,103,078	58,206
1946	38,086,501	172,102	3,009,427	913,089	33,991,883	67,984
1947	52,895,328	207,359	2,690,863	1,366,762	48,630,344	97,261

TABLE 7.16 ESTIMATION FOR MISSING VALUES, MANUFACTUERERS' STOCKS
REVISED FACTORY PRODUCTION, 1923-70

	VARIABLE CAPITAL	CIRCULATING CAPITAL	VARIABLE & CIRCULATING CAPITAL	REPORTED STOCK, ETC	STOCK AS PERCENT V.C & C.C	AVERAGE STOCK PERCENT	DEV'N FROM AVERAGE	ESTIMATED STOCK, ETC	ESTIMATED & REPORTED STOCK, ETC
1949	90,159	350,941	441,100					95,542	95,542
1950	103,162	448,972	552,134					119,592	119,592
1951	115,330	488,515	603,846					130,793	130,793
1952	119,268	532,431	651,699					141,158	141,158
1953	132,271	576,488	708,759					153,517	153,517
1954	151,931	652,057	803,989					174,144	174,144
1955	163,577	693,251	856,828					185,589	185,589
1956	173,149	718,802	891,951					193,197	193,197
1957	187,289	769,559	956,848	219,400	22.93	21.66	1.27		219,400
1958	195,949	794,875	990,824	237,500	23.97	21.66	2.31		237,500
1959	201,791	829,071	1,030,863	245,800	23.84	21.66	2.18		245,800
1960	225,059	913,910	1,138,970	246,000	21.60	21.66	-0.06		246,000
1961	241,403	963,443	1,204,846	277,300	23.02	21.66	1.36		277,300
1962	250,110	998,705	1,248,815	272,000	21.78	21.66	0.12		272,000
1963	274,845	1,150,869	1,425,714	300,300	21.06	21.66	-0.60		300,300
1964	305,192	1,325,894	1,631,086	325,400	19.95	21.66	-1.71		325,400
1965	337,014	1,410,933	1,747,947	364,500	20.85	21.66	-0.81		364,500
1966	362,794	1,469,317	1,832,111	413,100	22.55	21.66	0.89		413,100
1967	362,667	1,525,535	1,888,202	452,100	23.94	21.66	2.28		452,100
1968	384,593	1,713,567	2,098,160	481,300	22.94	21.66	1.28		481,300
1969	438,999	1,973,711	2,412,710	544,900	22.58	21.66	0.92		544,900
1970	522,713	2,233,851	2,756,564	610,300	22.14	21.66	0.48		610,300

TABLE 7.16 ESTIMATION FOR MISSING VALUES, MANUFACTUERERS' STOCKS
REVISED FACTORY PRODUCTION, 1923-70

	VARIABLE CAPITAL	CIRCULATING CAPITAL	VARIABLE & CIRCULATING CAPITAL	REPORTED STOCK, ETC	STOCK AS PERCENT V.C & C.C	AVERAGE STOCK PERCENT	DEV'N FROM AVERAGE	ESTIMATED STOCK, ETC	ESTIMATED & REPORTED STOCK, ETC
1923	18,814	69,718	88,532					19,176	19,176
1924	19,729	82,158	101,887					22,069	22,069
1925	21,994	81,151	103,145	17,430	16.90	21.66	-4.76		17,430
1926	19,544	76,966	96,510	20,213	20.94	21.66	-0.72		20,213
1927	18,958	88,310	107,268	19,932	18.58	21.66	-3.08		19,932
1928	19,152	86,965	106,117	20,607	19.42	21.66	-2.24		20,607
1929	22,509	83,821	106,330	21,446	20.17	21.66	-1.49		21,446
1930	20,785	72,107	92,892	19,842	21.36	21.66	-0.30		19,842
1931	16,283	58,452	74,735	17,486	23.40	21.66	1.74		17,486
1932	14,931	59,830	74,761	17,249	23.07	21.66	1.41		17,249
1933	15,411	65,664	81,075	17,376	21.43	21.66	-0.23		17,376
1934	17,503	76,217	93,720	19,418	20.72	21.66	-0.94		19,418
1935	19,577	82,845	102,422	21,029	20.53	21.66	-1.13		21,029
1936	25,147	99,305	124,452	23,783	19.11	21.66	-2.55		23,783
1937	29,786	105,827	135,613	27,803	20.50	21.66	-1.16		27,803
1938	31,671	105,629	137,300	27,379	19.94	21.66	-1.72		27,379
1939	35,147	120,277	155,424	31,749	20.43	21.66	-1.23		31,749
1940	39,018	141,593	180,611	40,474	22.41	21.66	0.75		40,474
1941	43,105	153,255	196,360	43,919	22.37	21.66	0.71		43,919
1942	47,839	168,409	216,248	46,496	21.50	21.66	-0.16		46,496
1943	51,302	182,182	233,484	53,294	22.83	21.66	1.17		53,294
1944	55,687	195,598	251,285	55,403	22.05	21.66	0.39		55,403
1945	61,465	208,016	269,481	58,206	21.60	21.66	-0.06		58,206
1946	64,940	233,470	298,410	67,984	22.78	21.66	1.12		67,984
1947	74,630	294,214	368,844	97,261	26.37	21.66	4.71		97,261

TABLE 7.17 ESTIMATION FINISHED GOODS IN MANUFACTURERS' STOCKS
REVISED FACTORY PRODUCTION, 1923-56

	FINISHED GOODS	TOTAL	F. GOODS PERCENT TOTAL	AVERAGE PERCENT	DEV'N FROM AVG %	STOCK, ETC FROM TAB 7.16	ESTIMATED FINISHED GOODS
1923				34.30		19,176	6,577
1924				34.30		22,069	7,570
1925				34.30		17,430	5,978
1926				34.30		20,213	6,933
1927				34.30		19,932	6,837
1928				34.30		20,607	7,068
1929				34.30		21,446	7,356
1930				34.30		19,842	6,806
1931				34.30		17,486	5,998
1932				34.30		17,249	5,916
1933				34.30		17,376	5,960
1934				34.30		19,418	6,660
1935				34.30		21,029	7,213
1936				34.30		23,783	8,157
1937				34.30		27,803	9,536
1938				34.30		27,379	9,391
1939				34.30		31,749	10,890
1940				34.30		40,474	13,883
1941				34.30		43,919	15,064
1942				34.30		46,496	15,948
1943				34.30		53,294	18,280
1944				34.30		55,403	19,003
1945				34.30		58,206	19,965
1946				34.30		67,984	23,318
1947				34.30		97,261	33,360

TABLE 7.17 ESTIMATION FINISHED GOODS IN MANUFACTURERS' STOCKS
REVISED FACTORY PRODUCTION, 1923-56

	FINISHED GOODS	TOTAL	F. GOODS PERCENT TOTAL	AVERAGE PERCENT	DEV'N FROM AVG %	STOCK, ETC FROM TAB 7.16	ESTIMATED FINISHED GOODS
1949				34.30		95,542	32,771
1950				34.30		119,592	41,020
1951				34.30		130,793	44,862
1952				34.30		141,158	48,417
1953				34.30		153,517	52,656
1954				34.30		174,144	59,731
1955				34.30		185,589	63,657
1956				34.30		193,197	66,267
1957	79.1	219.4	36.05	34.30	1.75		
1958	74.3	237.5	31.28	34.30	-3.02		
1959	81.5	245.8	33.16	34.30	-1.14		
1960	77.1	246.0	31.34	34.30	-2.96		
1961	84.2	277.3	30.36	34.30	-3.94		
1962	86.4	272.0	31.76	34.30	-2.54		
1963	94.2	300.3	31.37	34.30	-2.93		
1964	103.7	325.4	31.87	34.30	-2.43		
1965	123.4	364.5	33.85	34.30	-0.45		
1966	144.6	413.1	35.00	34.30	0.70		
1967	168.3	452.1	37.23	34.30	2.93		
1968	193.8	481.3	40.27	34.30	5.97		
1969	208.3	544.9	38.23	34.30	3.93		
1970	234.7	610.3	38.46	34.30	4.16		

TABLE 7:18 CIRCULATING & VARIABLE CAPITAL IN ESTIMATED STOCK ON HAND
REVISED FACTORY PRODUCTION, 1923-1956

	ESTIMATED FINISHED GOODS	VALUE OF PRODUCT	------PRESERVED VALUE------ FIXED CAPITAL	VAR'BLE CAPITAL	CIRC'ING CAPITAL	SURPLUS VALUE	--% OF VALUE OF PRODUCT--- FIX. CAP.	VAR. CAP.	CIRC CAP.	SURP VAL.	-VALUE IN EST. FINISHE- ----PRESERVED VALUE---- FIXED	VAR'BLE	CIRC'G	NEW VALUE
1923	6,577	103,378	3,723	18,814	69,718	11,123	3.60	18.20	67.44	10.76	237	1,197	4,436	708
1924	7,570	117,410	4,074	19,729	82,158	11,449	3.47	16.80	69.98	9.75	263	1,272	5,297	738
1925	5,978	115,818	4,493	21,994	81,151	8,180	3.88	18.99	70.07	7.06	232	1,135	4,189	422
1926	6,933	110,916	4,414	19,544	76,966	9,992	3.98	17.62	69.39	9.01	276	1,222	4,811	625
1927	6,837	120,990	4,441	18,958	88,310	9,281	3.67	15.67	72.99	7.67	251	1,071	4,990	524
1928	7,068	122,638	5,671	19,152	86,965	10,850	4.62	15.62	70.91	8.85	327	1,104	5,012	625
1929	7,356	123,240	6,114	22,509	83,821	10,796	4.96	18.26	68.01	8.76	365	1,343	5,003	644
1930	6,806	108,684	5,444	20,785	72,107	10,348	5.01	19.12	66.35	9.52	341	1,302	4,515	648
1931	5,998	86,990	4,962	16,283	58,452	7,293	5.70	18.72	67.19	8.38	342	1,123	4,030	503
1932	5,916	87,090	5,006	14,931	59,830	7,323	5.75	17.14	68.70	8.41	340	1,014	4,064	497
1933	5,960	95,996	4,758	15,411	65,664	10,163	4.96	16.05	68.40	10.59	295	957	4,077	631
1934	6,660	110,284	5,146	17,503	76,217	11,418	4.67	15.87	69.11	10.35	311	1,057	4,603	690
1935	7,213	120,802	5,571	19,577	82,845	12,809	4.61	16.21	68.58	10.60	333	1,169	4,947	765
1936	8,157	145,020	6,327	25,147	99,305	14,241	4.36	17.34	68.48	9.82	356	1,415	5,586	801
1937	9,536	157,470	6,190	29,786	105,827	15,667	3.93	18.92	67.20	9.95	375	1,804	6,409	949
1938	9,391	158,546	5,766	31,671	105,629	15,480	3.64	19.98	66.62	9.76	342	1,876	6,257	917
1939	10,890	180,966	7,415	35,147	120,277	18,127	4.10	19.42	66.46	10.02	446	2,115	7,238	1,091
1940	13,883	209,258	7,130	39,018	141,593	21,517	3.41	18.65	67.66	10.28	473	2,589	9,394	1,427
1941	15,064	228,586	7,669	43,105	153,255	24,557	3.35	18.86	67.04	10.74	505	2,841	10,100	1,618

TABLE 7:18 CIRCULATING & VARIABLE CAPITAL IN ESTIMATED STOCK ON HAND
REVISED FACTORY PRODUCTION, 1923-1956

	ESTIMATED FINISHED GOODS	VALUE OF PRODUCT	------PRESERVED VALUE------ FIXED CAPITAL	VAR'BLE CAPITAL	CIRC'ING CAPITAL	SURPLUS VALUE	--% OF VALUE OF PRODUCT--- FIX. CAP.	VAR. CAP.	CIRC CAP.	SURP VAL.	-VALUE IN EST. FINISHE- ----PRESERVED VALUE---- FIXED	VAR'BLE	CIRC'G	NEW VALUE
1942	15,948	252,576	7,873	47,839	168,409	28,455	3.12	18.94	66.68	11.27	497	3,021	10,634	1,797
1943	18,280	273,050	8,523	51,302	182,182	31,043	3.12	18.79	66.72	11.37	571	3,435	12,197	2,078
1944	19,003	292,268	8,989	55,687	195,598	31,994	3.08	19.05	66.92	10.95	584	3,621	12,718	2,080
1945	19,965	311,318	9,872	61,465	208,016	31,965	3.17	19.74	66.82	10.27	633	3,942	13,340	2,050
1946	23,318	348,292	11,207	64,940	233,470	38,675	3.22	18.65	67.03	11.10	750	4,348	15,631	2,589
1947	33,360	424,932	13,391	74,630	294,214	42,697	3.15	17.56	69.24	10.05	1,051	5,859	23,098	3,352
1949	32,771	515,604	16,211	90,159	350,941	58,293	3.14	17.49	68.06	11.31	1,030	5,730	22,305	3,705
1950	41,020	623,638	20,636	103,162	448,972	50,868	3.31	16.54	71.99	8.16	1,357	6,786	29,531	3,346
1951	44,862	706,880	23,990	115,330	488,515	79,044	3.39	16.32	69.11	11.18	1,523	7,319	31,004	5,017
1952	48,417	752,838	25,814	119,268	532,431	75,325	3.43	15.84	70.72	10.01	1,660	7,670	34,242	4,844
1953	52,656	821,608	28,918	132,271	576,488	83,931	3.52	16.10	70.17	10.22	1,853	8,477	36,947	5,379
1954	59,731	931,206	33,977	151,931	652,057	93,240	3.65	16.32	70.02	10.01	2,179	9,745	41,826	5,981
1955	63,657	992,136	41,880	163,577	693,251	93,428	4.22	16.49	69.87	9.42	2,687	10,495	44,480	5,995
1956	66,267	1,023,028	40,630	173,149	718,802	90,447	3.97	16.93	70.26	8.84	2,632	11,216	46,560	5,859

TABLE 7:19 STOCK OF CIRCULATING CAPITAL
REVISED FACTORY PRODUCTION, 1923-56

	STOCKS & WORK IN PROCESS	ESTIMATED FINISHED GOODS	--CIRCULATING CAPITAL STOCK-- MATERIALS	FINISHED GOODS	TOTAL
1923	19,176	6,577	12,599	4,436	17,034
1924	22,069	7,570	14,499	5,297	19,796
1925	17,430	5,978	11,451	4,189	15,640
1926	20,213	6,933	13,280	4,811	18,091
1927	19,932	6,837	13,096	4,990	18,086
1928	20,607	7,068	13,539	5,012	18,551
1929	21,446	7,356	14,090	5,003	19,093
1930	19,842	6,806	13,036	4,515	17,552
1931	17,486	5,998	11,489	4,030	15,519
1932	17,249	5,916	11,332	4,064	15,397
1933	17,376	5,960	11,416	4,077	15,493
1934	19,418	6,660	12,757	4,603	17,360
1935	21,029	7,213	13,816	4,947	18,763
1936	23,783	8,157	15,625	5,586	21,211
1937	27,803	9,536	18,267	6,409	24,675
1938	27,379	9,391	17,988	6,257	24,245
1939	31,749	10,890	20,859	7,238	28,097
1940	40,474	13,883	26,591	9,394	35,985
1941	43,919	15,064	28,855	10,100	38,955
1942	46,496	15,948	30,548	10,634	41,182
1943	53,294	18,280	35,014	12,197	47,211
1944	55,403	19,003	36,400	12,718	49,118
1945	58,206	19,965	38,241	13,340	51,581
1946	67,984	23,318	44,665	15,631	60,296
1947	97,261	33,360	63,900	23,098	86,998
1949	95,542	32,771	62,771	22,305	85,076
1950	119,592	41,020	78,572	29,531	108,103
1951	130,793	44,862	85,931	31,004	116,935
1952	141,158	48,417	92,741	34,242	126,983
1953	153,517	52,656	100,861	36,947	137,807
1954	174,144	59,731	114,413	41,826	156,238
1955	185,589	63,657	121,932	44,480	166,412
1956	193,197	66,267	126,930	46,560	173,491

TABLE 7:20 ANNUAL CYCLES OF CIRCULATING CAPITAL
REVISED FACTORY PRODUCTION, 1923-56

	ANNUAL FLOW CIRCULATING CAPITAL	CIRCULATING CAPITAL STOCK	ANNUAL CYCLES CIRCULATING CAPITAL STOCK
1923	69,718	17,034	4.09
1924	82,158	19,796	4.15
1925	81,151	15,640	5.19
1926	76,966	18,091	4.25
1927	88,310	18,086	4.88
1928	86,965	18,551	4.69
1929	83,821	19,093	4.39
1930	72,107	17,552	4.11
1931	58,452	15,519	3.77
1932	59,830	15,397	3.89
1933	65,664	15,493	4.24
1934	76,217	17,360	4.39
1935	82,845	18,763	4.42
1936	99,305	21,211	4.68
1937	105,827	24,675	4.29
1938	105,629	24,245	4.36
1939	120,277	28,097	4.28
1940	141,593	35,985	3.93
1941	153,255	38,955	3.93
1942	168,409	41,182	4.09
1943	182,182	47,211	3.86
1944	195,598	49,118	3.98
1945	208,016	51,581	4.03
1946	233,470	60,296	3.87
1947	294,214	86,998	3.38
1949	350,941	85,076	4.13
1950	448,972	108,103	4.15
1951	488,515	116,935	4.18
1952	532,431	126,983	4.19
1953	576,488	137,807	4.18
1954	652,057	156,238	4.17
1955	693,251	166,412	4.17
1956	718,802	173,491	4.14

TABLE 7:21 CYCLES OF VARIABLE CAPITAL PER YEAR
REVISED FACTORY PRODUCTION, 1923-56

	VARIABLE CAPITAL				CYCLES
	ANNUAL FLOW	FOR SEVEN WEEKS	FINISHED GOODS	STOCK	PER YEAR
1923	18,814	2,533	1,197	3,730	5.04
1924	19,729	2,656	1,272	3,928	5.02
1925	21,994	2,961	1,135	4,096	5.37
1926	19,544	2,631	1,222	3,853	5.07
1927	18,958	2,552	1,071	3,623	5.23
1928	19,152	2,578	1,104	3,682	5.20
1929	22,509	3,030	1,343	4,374	5.15
1930	20,785	2,798	1,302	4,100	5.07
1931	16,283	2,192	1,123	3,315	4.91
1932	14,931	2,010	1,014	3,024	4.94
1933	15,411	2,075	957	3,031	5.08
1934	17,503	2,356	1,057	3,413	5.13
1935	19,577	2,635	1,169	3,804	5.15
1936	25,147	3,385	1,415	4,800	5.24
1937	29,786	4,010	1,804	5,814	5.12
1938	31,671	4,263	1,876	6,139	5.16
1939	35,147	4,731	2,115	6,846	5.13
1940	39,018	5,252	2,589	7,841	4.98
1941	43,105	5,803	2,841	8,643	4.99
1942	47,839	6,440	3,021	9,461	5.06
1943	51,302	6,906	3,435	10,341	4.96
1944	55,687	7,496	3,621	11,117	5.01
1945	61,465	8,274	3,942	12,216	5.03
1946	64,940	8,742	4,348	13,090	4.96
1947	74,630	10,046	5,859	15,905	4.69
1949	90,159	12,137	5,730	17,867	5.05
1950	103,162	13,887	6,786	20,673	4.99
1951	115,330	15,525	7,319	22,845	5.05
1952	119,268	16,055	7,670	23,726	5.03
1953	132,271	17,806	8,477	26,283	5.03
1954	151,931	20,452	9,745	30,198	5.03
1955	163,577	22,020	10,495	32,515	5.03
1956	173,149	23,309	11,216	34,524	5.02

TABLE 7:22 STOCK LEVELS & CYCLES OF CONSTANT CAPITAL PER YEAR
REVISED FACTORY PRODUCTION, 1923-70

	CONSTANT CAPITAL								CYCLES
	-WAGES NON PROD WORKERS--		FIXED	CIRC'ING	STOCK	ANNUAL FLOW			PER
	ANNUAL BILL	SEVEN WEEKS	CAPITAL	CAPITAL	LEVEL	CIRCULATING	FIXED	TOTAL	YEAR
1923	5,848	787	52,916	17,034	70,738	69,718	52,916	122,634	1.73
1924	6,923	932	56,020	19,796	76,748	82,158	56,020	138,178	1.80
1925	6,760	910	59,430	15,640	75,980	81,151	59,430	140,581	1.85
1926	9,196	1,238	59,684	18,091	79,013	76,966	59,684	136,650	1.73
1927	9,268	1,248	61,344	18,086	80,677	88,310	61,344	149,654	1.85
1928	9,382	1,263	62,666	18,551	82,480	86,965	62,666	149,631	1.81
1929	7,113	958	64,874	19,093	84,924	83,821	64,874	148,695	1.75
1930	6,363	857	63,048	17,552	81,456	72,107	63,048	135,155	1.66
1931	5,207	701	59,654	15,519	75,874	58,452	59,654	118,106	1.56
1932	5,481	738	59,786	15,397	75,921	59,830	59,786	119,616	1.58
1933	5,075	683	58,034	15,493	74,210	65,664	58,034	123,698	1.67
1934	5,337	718	58,890	17,360	76,969	76,217	58,890	135,107	1.76
1935	6,143	827	60,536	18,763	80,126	82,845	60,536	143,381	1.79
1936	6,895	928	62,836	21,211	84,975	99,305	62,836	162,141	1.91
1937	7,236	974	66,936	24,675	92,586	105,827	66,936	172,763	1.87
1938	7,623	1,026	71,286	24,245	96,557	105,629	71,286	176,915	1.83
1939	8,307	1,118	76,178	28,097	105,394	120,277	76,178	196,455	1.86
1940	9,034	1,216	78,854	35,985	116,055	141,593	78,854	220,447	1.90
1941	9,909	1,334	81,876	38,955	122,165	153,255	81,876	235,131	1.92
1942	10,639	1,432	84,302	41,182	126,916	168,409	84,302	252,711	1.99
1943	11,356	1,529	87,268	47,211	136,007	182,182	87,268	269,450	1.98
1944	12,227	1,646	92,918	49,118	143,681	195,598	92,918	288,516	2.01
1945	13,947	1,877	98,620	51,581	152,079	208,016	98,620	306,636	2.02
1946	15,705	2,114	106,094	60,296	168,505	233,470	106,094	339,564	2.02
1947	18,372	2,473	119,262	86,998	208,733	294,214	119,262	413,476	1.98

TABLE 7:22 STOCK LEVELS & CYCLES OF CONSTANT CAPITAL PER YEAR
REVISED FACTORY PRODUCTION, 1923-70

	-WAGES NON PROD WORKERS--		CONSTANT CAPITAL						CYCLES
			FIXED	CIRC'ING	STOCK	-ANNUAL FLOW-			PER
	ANNUAL BILL	SEVEN WEEKS	CAPITAL	CAPITAL	LEVEL	CIRCULATING	FIXED	TOTAL	YEAR
1949	19,713	2,654	143,288	85,076	231,018	350,941	143,288	494,229	2.14
1950	22,701	3,056	161,622	108,103	272,781	448,972	161,622	610,594	2.24
1951	25,105	3,380	180,218	116,935	300,532	488,515	180,218	668,733	2.23
1952	28,062	3,778	198,768	126,983	329,529	532,431	198,768	731,199	2.22
1953	30,696	4,132	219,560	137,807	361,500	576,488	219,560	796,048	2.20
1954	34,318	4,620	251,060	156,238	411,918	652,057	251,060	903,117	2.19
1955	38,821	5,226	311,234	166,412	482,872	693,251	311,234	1,004,485	2.08
1956	41,431	5,577	330,444	173,491	509,512	718,802	330,444	1,049,246	2.06
1957	83,622	11,257	347,932	195,665	554,854	769,559	347,932	1,117,491	2.01
1958	87,409	11,767	380,312	214,666	606,744	794,875	380,312	1,175,187	1.94
1959	92,777	12,489	413,496	219,470	645,455	829,071	413,496	1,242,567	1.93
1960	101,334	13,641	466,824	221,563	702,029	913,910	466,824	1,380,734	1.97
1961	109,556	14,748	528,496	249,607	792,851	963,443	528,496	1,491,939	1.88
1962	116,754	15,717	601,190	243,103	860,010	998,705	601,190	1,599,895	1.86
1963	128,086	17,242	641,438	268,967	927,647	1,150,869	641,438	1,792,307	1.93
1964	143,094	19,263	712,234	291,584	1,023,081	1,325,894	712,234	2,038,128	1.99
1965	160,182	21,563	809,362	322,802	1,153,727	1,410,933	809,362	2,220,295	1.92
1966	176,935	23,818	899,603	363,946	1,287,367	1,469,317	899,603	2,368,920	1.84
1967	182,914	24,623	936,667	395,405	1,356,695	1,525,535	936,667	2,462,202	1.81
1968	196,924	26,509	985,315	417,799	1,429,623	1,713,567	985,315	2,698,882	1.89
1969	222,153	29,905	1,151,314	476,940	1,658,159	1,973,711	1,151,314	3,125,025	1.88
1970	263,428	35,461	1,261,454	532,812	1,829,727	2,233,851	1,261,454	3,495,305	1.91

APPENDIX 7.C VALUE RELATIONS

In this section the ratios of value; S/V, C/V and S/(C+V), are calculated and compared. As well additional tables are generated to show the rate of capital accumulation, the ratio of surplus value to accumulated capital and so on.

Table 7:23 calculates the total stock of capital per year and 7:24 shows the ratio of constant to variable capital, i.e. the organic composition of capital.

Table 7:25 shows the rate of profit, the ratio of surplus value to constant and variable capital S/(C+V). Part of the total surplus in Revised Factory Production is "excess tax", tax over and above the social security level. To find the average rate of return on capital invested in the sector the rate of profit is recalculated - AVERAGE GROSS & NOMINAL PROFIT RATE IN MANUFACTURING - (S -(excess tax))/(C+V). Table 7.26 shows the average rate of return after allowing for the effects of inflation, the "REAL" RETURN ON CAPITAL. These figures are obtained by caluclating the rate of inflation (from the CPI) and subtracting this rate from the nominal rate of return.

The usefulness of the "real" rate of profit estimated in this way is difficult to evaluate. A

number of contradictory aspects need to be taken into account. Where the inflation rate is negative the rate of profit will rise. In part this is an accurate assessment since the falling prices are reflected back onto the "value" of the stock of accumulated capital. At the same time, since the increase in profits is a consequence of a fall in the "value" of the accumulated capital which ought then to be deducted from the annual surplus. Positive inflation works the other way around. The rate of inflation lowers the rate of profit but raises the "value" of the existing capital stock.

These contradictory aspects are inherent in the dual role of money in the capitalist economy, money functions simultaneously as a means of exchange and as a means of payment. To evaluate the consequences of alterations in the value of money it is necessary to see the contradiction as it works itself out in the real historical setting. This is discussed in the main text, chapter #.

The annual accumulation of capital, the increase in capital stock each year is shown in Table 7:27. The table shows, as well, the ratio of capital accumulated to surplus each year. Table 7:28 shows fluctuations in the organic composition and the rates of surplus-value and profit year by year. Finally, fluctuations in the

rate of capital accumulation are calculated in Table 7:28.

TABLE 7:23 TOTAL CAPITAL STOCK PER YEAR
REVISED FACTORY PRODUCTION, 1923-70

	CAPITAL STOCKS		
	CONSTANT	VARIABLE	TOTAL STOCK
1923	70,738	3,730	74,467
1924	76,748	3,928	80,676
1925	75,980	4,096	80,077
1926	79,013	3,853	82,865
1927	80,677	3,623	84,301
1928	82,480	3,682	86,162
1929	84,924	4,374	89,298
1930	81,456	4,100	85,556
1931	75,874	3,315	79,188
1932	75,921	3,024	78,945
1933	74,210	3,031	77,241
1934	76,969	3,413	80,382
1935	80,126	3,804	83,930
1936	84,975	4,800	89,775
1937	92,586	5,814	98,399
1938	96,557	6,139	102,697
1939	105,394	6,846	112,240
1940	116,055	7,841	123,896
1941	122,165	8,643	130,808
1942	126,916	9,461	136,376
1943	136,007	10,341	146,348
1944	143,681	11,117	154,799
1945	152,079	12,216	164,295
1946	168,505	13,090	181,594
1947	208,733	15,905	224,639
1949	231,018	17,867	248,885
1950	272,781	20,673	293,454
1951	300,532	22,845	323,377
1952	329,529	23,726	353,254
1953	361,500	26,283	387,782
1954	411,918	30,198	442,116
1955	482,872	32,515	515,387
1956	509,512	34,524	544,036
1957	554,854	38,645	593,499
1958	606,744	39,080	645,824
1959	645,455	40,605	686,060
1960	702,029	43,263	745,291
1961	792,851	46,648	839,498
1962	860,010	48,064	908,074
1963	927,647	52,014	979,662
1964	1,023,081	57,282	1,080,363
1965	1,153,727	64,880	1,218,607
1966	1,287,367	72,400	1,359,767
1967	1,356,695	75,352	1,432,047
1968	1,429,623	81,032	1,510,655
1969	1,658,159	90,329	1,748,487
1970	1,829,727	107,162	1,936,889

TABLE 7.24 ORGANIC COMPOSITION OF CAPITAL
REVISED FACTORY PRODUCTION, 1923-70

	STOCKS OF CAPITAL		ORGANIC COMPOSITION OF CAPITAL
	CONSTANT	VARIABLE	
1923	70,738	3,730	18.97
1924	76,748	3,928	19.54
1925	75,980	4,096	18.55
1926	79,013	3,853	20.51
1927	80,677	3,623	22.27
1928	82,480	3,682	22.40
1929	84,924	4,374	19.42
1930	81,456	4,100	19.87
1931	75,874	3,315	22.89
1932	75,921	3,024	25.10
1933	74,210	3,031	24.48
1934	76,969	3,413	22.55
1935	80,126	3,804	21.06
1936	84,975	4,800	17.70
1937	92,586	5,814	15.93
1938	96,557	6,139	15.73
1939	105,394	6,846	15.39
1940	116,055	7,841	14.80
1941	122,165	8,643	14.13
1942	126,916	9,461	13.42
1943	136,007	10,341	13.15
1944	143,681	11,117	12.92
1945	152,079	12,216	12.45
1946	168,505	13,090	12.87
1947	208,733	15,905	13.12
1949	231,018	17,867	12.93
1950	272,781	20,673	13.20
1951	300,532	22,845	13.16
1952	329,529	23,726	13.89
1953	361,500	26,283	13.75
1954	411,918	30,198	13.64
1955	482,872	32,515	14.85
1956	509,512	34,524	14.76
1957	554,854	38,645	14.36
1958	606,744	39,080	15.53
1959	645,455	40,605	15.90
1960	702,029	43,263	16.23
1961	792,851	46,648	17.00
1962	860,010	48,064	17.89
1963	927,647	52,014	17.83
1964	1,023,081	57,282	17.86
1965	1,153,727	64,880	17.78
1966	1,287,367	72,400	17.78
1967	1,356,695	75,352	18.00
1968	1,429,623	81,032	17.64
1969	1,658,159	90,329	18.36
1970	1,829,727	107,162	17.07

TABLE 7:25 NOMINAL & GROSS RATES OF PROFIT
REVISED FACTORY PRODUCTION, 1923-70

	-----STOCKS OF------ ------CAPITAL------- CONSTANT	VARIABLE	SURPLUS VALUE	RATE OF PROFIT PERCENT	EXCESS TAX TAB 6.39	SURPLUS VALUE LESS EXCESS TAX	AVERAGE GROSS & NOMINAL PROFIT RATE IN MANUFACTURING
1923	70,738	3,730	11,123	14.94	0	11,123	14.94
1924	76,748	3,928	11,449	14.19	0	11,449	14.19
1925	75,980	4,096	8,180	10.22	0	8,180	10.22
1926	79,013	3,853	9,992	12.06	0	9,992	12.06
1927	80,677	3,623	9,281	11.01	0	9,281	11.01
1928	82,480	3,682	10,850	12.59	0	10,850	12.59
1929	84,924	4,374	10,796	12.09	0	10,796	12.09
1930	81,456	4,100	10,348	12.10	0	10,348	12.10
1931	75,874	3,315	7,293	9.21	0	7,293	9.21
1932	75,921	3,024	7,323	9.28	0	7,323	9.28
1933	74,210	3,031	10,163	13.16	0	10,163	13.16
1934	76,969	3,413	11,418	14.20	0	11,418	14.20
1935	80,126	3,804	12,809	15.26	0	12,809	15.26
1936	84,975	4,800	14,241	15.86	0	14,241	15.86
1937	92,586	5,814	15,667	15.92	0	15,667	15.92
1938	96,557	6,139	15,480	15.07	0	15,480	15.07
1939	105,394	6,846	18,127	16.15	0	18,127	16.15
1940	116,055	7,841	21,517	17.37	0	21,517	17.37
1941	122,165	8,643	24,557	18.77	0	24,557	18.77
1942	126,916	9,461	28,455	20.87	0	28,455	20.87
1943	136,007	10,341	31,043	21.21	0	31,043	21.21
1944	143,681	11,117	31,994	20.67	0	31,994	20.67
1945	152,079	12,216	31,965	19.46	0	31,965	19.46
1946	168,505	13,090	38,675	21.30	1,847	36,828	20.28
1947	208,733	15,905	42,697	19.01	2,762	39,935	17.78

TABLE 7:25 NOMINAL & GROSS RATES OF PROFIT
REVISED FACTORY PRODUCTION, 1923-70

	-----STOCKS OF------ ------CAPITAL------- CONSTANT	VARIABLE	SURPLUS VALUE	RATE OF PROFIT PERCENT	EXCESS TAX TAB 6.39	SURPLUS VALUE LESS EXCESS TAX	AVERAGE GROSS & NOMINAL PROFIT RATE IN MANUFACTURING
1949	231,018	17,867	58,293	23.42	2,220	56,073	22.53
1950	272,781	20,673	50,868	17.33	3,037	47,831	16.30
1951	300,532	22,845	79,044	24.44	4,034	75,010	23.20
1952	329,529	23,726	75,325	21.32	3,342	71,983	20.38
1953	361,500	26,283	83,931	21.64	3,931	80,000	20.63
1954	411,918	30,198	93,240	21.09	4,146	89,094	20.15
1955	482,872	32,515	93,428	18.13	6,618	86,810	16.84
1956	509,512	34,524	90,447	16.63	0	90,447	16.63
1957	554,854	38,645	97,857	16.49	0	97,857	16.49
1958	606,744	39,080	106,080	16.43	4,381	101,699	15.75
1959	645,455	40,605	142,922	20.83	10,124	132,798	19.36
1960	702,029	43,263	144,541	19.39	9,277	135,264	18.15
1961	792,851	46,648	172,482	20.55	9,944	162,538	19.36
1962	860,010	48,064	185,520	20.43	11,684	173,836	19.14
1963	927,647	52,014	225,290	23.00	9,017	216,273	22.08
1964	1,023,081	57,282	240,014	22.22	11,530	228,484	21.15
1965	1,153,727	64,880	286,541	23.51	12,725	273,816	22.47
1966	1,287,367	72,400	288,333	21.20	14,231	274,102	20.16
1967	1,356,695	75,352	304,655	21.27	14,255	290,400	20.28
1968	1,429,623	81,032	334,669	22.15	15,842	318,827	21.11
1969	1,658,159	90,329	384,418	21.99	25,880	358,538	20.51
1970	1,829,727	107,162	426,253	22.01	41,885	384,368	19.84

TABLE 7:26 REAL GROSS RATE OF PROFIT
REVISED FACTORY PRODUCTION, 123-70

	NOMINAL RETURN ON CAPITAL	--CONSUMERS' PRICE INDEX-- TOTAL	PR. TOTAL	RATE OF INFLATION	REAL RETURN ON CAPITAL
1923	14.94	135	136	-0.74	15.67
1924	14.19	137	135	1.48	12.71
1925	10.22	138	137	0.73	9.49
1926	12.06	139	138	0.72	11.33
1927	11.01	138	139	-0.72	11.73
1928	12.59	138	138	0.00	12.59
1929	12.09	138	138	0.00	12.09
1930	12.10	135	138	-2.17	14.27
1931	9.21	125	135	-7.41	16.62
1932	9.28	115	125	-8.00	17.28
1933	13.16	109	115	-5.22	18.37
1934	14.20	111	109	1.83	12.37
1935	15.26	115	111	3.60	11.66
1936	15.86	119	115	3.48	12.38
1937	15.92	127	119	6.72	9.20
1938	15.07	131	127	3.15	11.92
1939	16.15	136	131	3.82	12.33
1940	17.37	142	136	4.41	12.96
1941	18.77	148	142	4.23	14.55
1942	20.87	152	148	2.70	18.16
1943	21.21	156	152	2.63	18.58
1944	20.67	159	156	1.92	18.75
1945	19.46	161	159	1.26	18.20
1946	20.28	162	161	0.62	19.66
1947	17.78	167	162	3.09	14.69
1949	22.53	184	181	1.66	20.87
1950	16.30	194	184	5.43	10.86
1951	23.20	216	194	11.34	11.86
1952	20.38	232	216	7.41	12.97
1953	20.63	243	232	4.74	15.89
1954	20.15	254	243	4.53	15.62
1955	16.84	260	254	2.36	14.48
1956	16.63	269	260	3.46	13.16
1957	16.49	275	269	2.23	14.26
1958	15.75	287	275	4.36	11.38
1959	19.36	298	287	3.83	15.52
1960	18.15	300	298	0.67	17.48
1961	19.36	306	300	2.00	17.36
1962	19.14	314	306	2.61	16.53
1963	22.08	320	314	1.91	20.17
1964	21.15	331	320	3.44	17.71
1965	22.47	343	331	3.63	18.84
1966	20.16	352	343	2.62	17.53
1967	20.28	373	352	5.97	14.31
1968	21.11	389	373	4.29	16.82
1969	20.51	409	389	5.14	15.36
1970	19.84	435	409	6.36	13.49

TABLE 7:27 CAPITAL ACCUMULATION
REVISED FACTORY PRODUCTION, 1923-70

	----THOUSANDS NOMINAL DOLLARS-----			CONS'	---CONSTANT DOLLARS----		RATE OF	SURPLUS	ACCUM'D	INDEX REAL
	TOTAL	PR. TOTAL	CAPITAL ACCUMULATED	PRICE INDEX	ACCUM'D CAPITAL	NEWLY ACC'D CAPITAL	CAPITAL ACCUM'N	VALUE LESS EXCESS TAX	CAPITAL % SURPLUS	ACCUM'D CAPITAL
								11,123		100
1923	74,467			135	1,189,822					
1924	80,676	74,467	6,209	137	1,270,205	97,752	8.34	11,449	54.23	107
1925	80,077	80,676	-599	138	1,251,631	-9,370	-0.74	8,180	-7.33	105
1926	82,865	80,077	2,789	139	1,285,903	43,277	3.48	9,992	27.91	108
1927	84,301	82,865	1,435	138	1,317,657	22,436	1.73	9,281	15.47	111
1928	86,162	84,301	1,861	138	1,346,748	29,091	2.21	10,850	17.15	113
1929	89,298	86,162	3,136	138	1,395,764	49,015	3.64	10,796	29.05	117
1930	85,556	89,298	-3,742	135	1,366,989	-59,792	-4.19	10,348	-36.16	115
1931	79,188	85,556	-6,367	125	1,366,475	-109,873	-7.44	7,293	-87.31	115
1932	78,945	79,188	-244	115	1,480,729	-4,569	-0.31	7,323	-3.33	124
1933	77,241	78,945	-1,703	109	1,528,529	-33,709	-2.16	10,163	-16.76	128
1934	80,382	77,241	3,140	111	1,562,015	61,027	4.07	11,418	27.50	131
1935	83,930	80,382	3,548	115	1,574,231	66,548	4.41	12,809	27.70	132
1936	89,775	83,930	5,845	119	1,627,266	105,949	6.96	14,241	41.04	137
1937	98,399	89,775	8,624	127	1,671,235	146,474	9.61	15,667	55.05	140
1938	102,697	98,399	4,297	131	1,690,966	70,761	4.37	15,480	27.76	142
1939	112,240	102,697	9,543	136	1,780,160	151,362	9.29	18,127	52.65	150
1940	123,896	112,240	11,656	142	1,882,000	177,058	10.38	21,517	54.17	158
1941	130,808	123,896	6,912	148	1,906,441	100,739	5.58	24,557	28.15	160
1942	136,376	130,808	5,568	152	1,935,287	79,016	4.26	28,455	19.57	163
1943	146,348	136,376	9,972	156	2,023,544	137,879	7.31	31,043	32.12	170
1944	154,799	146,348	8,450	159	2,100,003	114,639	5.77	31,994	26.41	176
1945	164,295	154,799	9,496	161	2,201,142	127,226	6.13	31,965	29.71	185
1946	181,594	164,295	17,299	162	2,417,894	230,339	10.53	36,828	46.97	203
1947	224,639	181,594	43,045	167	2,901,473	555,971	23.70	39,935	107.79	244

TABLE 7:27 CAPITAL ACCUMULATION
REVISED FACTORY PRODUCTION, 1923-70

	----THOUSANDS NOMINAL DOLLARS-----			CONS'	---CONSTANT DOLLARS----		RATE OF	SURPLUS	ACCUM'D	INDEX REAL
	TOTAL	PR. TOTAL	CAPITAL ACCUMULATED	PRICE INDEX	ACCUM'D CAPITAL	NEWLY ACC'D CAPITAL	CAPITAL ACCUM'N	VALUE LESS EXCESS TAX	CAPITAL % SURPLUS	ACCUM'D CAPITAL
1949	248,885	224,639	24,246	184	2,917,637	284,235	10.79	56,073	43.24	245
1950	293,454	248,885	44,569	194	3,262,783	495,540	17.91	47,831	93.18	274
1951	323,377	293,454	29,923	216	3,229,276	298,813	10.20	75,010	39.89	271
1952	353,254	323,377	29,878	232	3,284,352	277,784	9.24	71,983	41.51	276
1953	387,782	353,254	34,528	243	3,442,168	306,490	9.77	80,000	43.16	289
1954	442,116	387,782	54,333	254	3,754,503	461,406	14.01	89,094	60.98	316
1955	515,387	442,116	73,271	260	4,275,732	607,871	16.57	86,810	84.40	359
1956	544,036	515,387	28,649	269	4,362,402	229,725	5.56	90,447	31.67	367
1957	593,499	544,036	49,463	275	4,655,189	387,966	9.09	97,857	50.55	391
1958	645,824	593,499	52,325	287	4,853,806	393,259	8.82	101,699	51.45	408
1959	686,060	645,824	40,236	298	4,965,877	291,239	6.23	132,798	30.30	417
1960	745,291	686,060	59,231	300	5,358,645	425,874	8.63	135,264	43.79	450
1961	839,498	745,291	94,207	306	5,917,638	664,065	12.64	162,538	57.96	497
1962	908,074	839,498	68,576	314	6,237,950	471,080	8.17	173,836	39.45	524
1963	979,662	908,074	71,588	320	6,603,534	482,545	7.88	216,273	33.10	555
1964	1,080,363	979,662	100,701	331	7,040,310	656,229	10.28	228,484	44.07	592
1965	1,218,607	1,080,363	138,244	343	7,663,366	869,364	12.80	273,816	50.49	644
1966	1,359,767	1,218,607	141,160	352	8,332,435	865,007	11.58	274,102	51.50	700
1967	1,432,047	1,359,767	72,280	373	8,281,302	417,986	5.32	290,400	24.89	696
1968	1,510,655	1,432,047	78,608	389	8,376,562	435,879	5.49	318,827	24.66	704
1969	1,748,487	1,510,655	237,832	409	9,221,240	1,254,290	15.74	358,538	66.33	775
1970	1,936,889	1,748,487	188,402	435	9,604,298	934,212	10.78	384,368	49.02	807

TABLE 7:28 FLUCTUATIONS IN VALUE RELATIONS
REVISED FACTORY PRODUCTION, 1923-70

	ORGANIC COMPOSITION				RATE OF PROFIT				RATE OF SURPLUS VALUE			
		PR.	INCREASE			PR.	INCREASE			PR.	INCREASE	
	TOTAL	TOTAL	NO.	%	TOTAL.	TOTAL.	NO.	%	.TOTAL	.TOTAL	NO.	%
1923	18.97				14.94				0.57			
1924	19.54	18.97	0.57	3.02	14.19	14.94	-0.75	-5.01	0.56	0.57	-0.01	-2.31
1925	18.55	19.54	-0.99	-5.07	10.22	14.19	-3.97	-28.01	0.35	0.56	-0.21	-37.74
1926	20.51	18.55	1.96	10.56	12.06	10.22	1.84	17.99	0.49	0.35	0.14	39.09
1927	22.27	20.51	1.76	8.57	11.01	12.06	-1.05	-8.71	0.46	0.49	-0.03	-5.14
1928	22.40	22.27	0.13	0.60	12.59	11.01	1.58	14.37	0.54	0.46	0.08	17.79
1929	19.42	22.40	-2.98	-13.32	12.09	12.59	-0.50	-3.97	0.46	0.54	-0.08	-15.08
1930	19.87	19.42	0.45	2.33	12.10	12.09	0.01	0.04	0.48	0.46	0.02	3.70
1931	22.89	19.87	3.02	15.20	9.21	12.10	-2.89	-23.89	0.42	0.48	-0.06	-11.84
1932	25.10	22.89	2.21	9.67	9.28	9.21	0.07	0.72	0.46	0.42	0.04	10.63
1933	24.48	25.10	-0.62	-2.48	13.16	9.28	3.88	41.78	0.64	0.46	0.18	38.75
1934	22.55	24.48	-1.93	-7.89	14.20	13.16	1.04	7.94	0.63	0.64	-0.01	-1.55
1935	21.06	22.55	-1.49	-6.60	15.26	14.20	1.06	7.48	0.63	0.63	0.00	0.42
1936	17.70	21.06	-3.36	-15.94	15.86	15.26	0.60	3.95	0.55	0.63	-0.08	-13.18
1937	15.93	17.70	-1.78	-10.04	15.92	15.86	0.06	0.39	0.50	0.55	-0.05	-8.70
1938	15.73	15.93	-0.20	-1.24	15.07	15.92	-0.85	-5.32	0.46	0.50	-0.04	-7.61
1939	15.39	15.73	-0.33	-2.12	16.15	15.07	1.08	7.17	0.49	0.46	0.03	6.05
1940	14.80	15.39	-0.59	-3.85	17.37	16.15	1.22	7.54	0.52	0.49	0.03	6.75
1941	14.13	14.80	-0.67	-4.51	18.77	17.37	1.40	8.08	0.54	0.52	0.02	3.52
1942	13.42	14.13	-0.72	-5.09	20.87	18.77	2.10	11.16	0.56	0.54	0.02	3.61
1943	13.15	13.42	-0.26	-1.96	21.21	20.87	0.34	1.64	0.57	0.56	0.01	1.55
1944	12.92	13.15	-0.23	-1.74	20.67	21.21	-0.54	-2.55	0.54	0.57	-0.03	-4.81
1945	12.45	12.92	-0.48	-3.68	19.46	20.67	-1.21	-5.87	0.49	0.54	-0.05	-9.36
1946	12.87	12.45	0.42	3.40	20.28	19.46	0.82	4.22	0.56	0.49	0.07	15.14
1947	13.12	12.87	0.25	1.94	17.78	20.28	-2.50	-12.34	0.54	0.56	-0.02	-3.82

TABLE 7:28 FLUCTUATIONS IN VALUE RELATIONS
REVISED FACTORY PRODUCTION, 1923-70

	ORGANIC COMPOSITION				RATE OF PROFIT				RATE OF SURPLUS VALUE			
		PR.	INCREASE			PR.	INCREASE			PR.	INCREASE	
	TOTAL	TOTAL	NO.	%	TOTAL.	TOTAL.	NO.	%	.TOTAL	.TOTAL	NO.	%
1949	12.93	13.12	-0.19	-1.48	22.53	17.78	4.75	26.71	0.61	0.54	0.07	13.81
1950	13.20	12.93	0.27	2.05	16.30	22.53	-6.23	-27.66	0.46	0.61	-0.15	-24.67
1951	13.16	13.20	-0.04	-0.30	23.20	16.30	6.90	42.31	0.65	0.46	0.19	41.93
1952	13.89	13.16	0.73	5.58	20.38	23.20	-2.82	-12.17	0.60	0.65	-0.05	-8.24
1953	13.75	13.89	-0.13	-0.97	20.63	20.38	0.25	1.23	0.60	0.60	0.00	0.22
1954	13.64	13.75	-0.11	-0.83	20.15	20.63	-0.48	-2.32	0.58	0.60	-0.02	-2.83
1955	14.85	13.64	1.21	8.87	16.84	20.15	-3.31	-16.41	0.54	0.58	-0.04	-6.89
1956	14.76	14.85	-0.09	-0.62	16.63	16.84	-0.21	-1.28	0.49	0.54	-0.05	-9.08
1957	14.36	14.76	-0.40	-2.71	16.49	16.63	-0.14	-0.85	0.49	0.49	-0.00	-0.71
1958	15.53	14.36	1.17	8.14	15.75	16.49	-0.74	-4.50	0.51	0.49	0.02	4.20
1959	15.90	15.53	0.37	2.38	19.36	15.75	3.61	22.90	0.68	0.51	0.17	32.60
1960	16.23	15.90	0.33	2.08	18.15	19.36	-1.21	-6.25	0.61	0.68	-0.07	-10.37
1961	17.00	16.23	0.77	4.74	19.36	18.15	1.21	6.67	0.68	0.61	0.07	11.76
1962	17.89	17.00	0.90	5.27	19.14	19.36	-0.22	-1.12	0.71	0.68	0.03	3.98
1963	17.83	17.89	-0.06	-0.33	22.08	19.14	2.94	15.34	0.79	0.71	0.08	10.72
1964	17.86	17.83	0.03	0.15	21.15	22.08	-0.93	-4.22	0.75	0.79	-0.04	-4.73
1965	17.78	17.86	-0.08	-0.44	22.47	21.15	1.32	6.24	0.82	0.75	0.07	8.89
1966	17.78	17.78	-0.00	-0.01	20.16	22.47	-2.31	-10.29	0.76	0.82	-0.06	-7.32
1967	18.00	17.78	0.22	1.26	20.28	20.16	0.12	0.59	0.80	0.76	0.04	5.74
1968	17.64	18.00	-0.36	-2.01	21.11	20.28	0.83	4.07	0.83	0.80	0.03	4.25
1969	18.36	17.64	0.71	4.05	20.51	21.11	-0.60	-2.86	0.84	0.83	0.01	1.27
1970	17.07	18.36	-1.29	-7.01	19.84	20.51	-0.67	-3.24	0.78	0.84	-0.06	-7.09

TABLE 7:29 PERCENTAGE CHANGE IN C/V, S/(C+V), S/V & RATE OF ACCUMULATION, REV. FACTORY PRODUCTION 1923-70

	PERCENT CHANGE IN			
	ORGANIC COMPOS'N	RATIO S(C+V)	RATIO S/V	CAPITAL ACCUM'N
1923				
1924	3.02	-5.01	-2.31	8.34
1925	-5.07	-28.01	-37.74	-0.74
1926	10.56	17.99	39.09	3.48
1927	8.57	-8.71	-5.14	1.73
1928	0.60	14.37	17.79	2.21
1929	-13.32	-3.97	-15.08	3.64
1930	2.33	0.04	3.70	-4.19
1931	15.20	-23.89	-11.84	-7.44
1932	9.67	0.72	10.63	-0.31
1933	-2.48	41.78	38.75	-2.16
1934	-7.89	7.94	-1.55	4.07
1935	-6.60	7.48	0.42	4.41
1936	-15.94	3.95	-13.18	6.96
1937	-10.04	0.39	-8.70	9.61
1938	-1.24	-5.32	-7.61	4.37
1939	-2.12	7.17	6.05	9.29
1940	-3.85	7.54	6.75	10.38
1941	-4.51	8.08	3.52	5.58
1942	-5.09	11.16	3.61	4.26
1943	-1.96	1.64	1.55	7.31
1944	-1.74	-2.55	-4.81	5.77
1945	-3.68	-5.87	-9.36	6.13
1946	3.40	4.22	15.14	10.53
1947	1.94	-12.34	-3.82	23.70
1949	-1.48	26.71	13.81	10.79
1950	2.05	-27.66	-24.67	17.91
1951	-0.30	42.31	41.93	10.20
1952	5.58	-12.17	-8.24	9.24
1953	-0.97	1.23	0.22	9.77
1954	-0.83	-2.32	-2.83	14.01
1955	8.87	-16.41	-6.89	16.57
1956	-0.62	-1.28	-9.08	5.56
1957	-2.71	-0.85	-0.71	9.09
1958	8.14	-4.50	4.20	8.82
1959	2.38	22.90	32.60	6.23
1960	2.08	-6.25	-10.37	8.63
1961	4.74	6.67	11.76	12.64
1962	5.27	-1.12	3.98	8.17
1963	-0.33	15.34	10.72	7.88
1964	0.15	-4.22	-4.73	10.28
1965	-0.44	6.24	8.89	12.80
1966	-0.01	-10.29	-7.32	11.58
1967	1.26	0.59	5.74	5.32
1968	-2.01	4.07	4.25	5.49
1969	4.05	-2.86	1.27	15.74
1970	-7.01	-3.24	-7.09	10.78

APPENDIX 7.D

RIVAL INTERPRETATIONS

This section is used to calculate the marxist variables according to the definitions and formulae given by Shaikh, Hampton and Steven. As well the rate of capital accumulation is estimated for each of these interpretations. The different definitions for variable capital and surplus-value are all discussed in Section A above. The estimates for surplus-value shown here are brought forward from that discussion.

The only departure Shaikh makes from the definitions we use is that for surplus-value. Shaikh considers the wages and salaries of non-productive workers as newly created value not circulating capital. From Shaikh's standpoint our estimate for the stock of constant capital will be overestimated by the sum allowed to pay non-productive wages. Table 7:30 shows the rate of profit and the organic composition of capital after the adjustment to constant capital is made.

Hampton defines constant capital as the sum of "the cost of materials, Other expenses of production (excluding interest and depreciation) and depreciation. Depreciation and not the value of land, buildings and plant and machinery (i.e. assets) represents the

fraction of fixed assets outlaid annually". (Hampton, The Development of New Zealand Industrial Capital: Organic Composition and the Rate of Profit, p3.) The following further definitions are also given: "Organic Composition - constant capital divided by wages; Rate of profit -indicator of surplus value divided by total capital advanced (i.e. constant capital plus wages and salaries)" (ibid p4).

Table 7:32 shows constant and variable capital calculated in this way. The annual flows have been divided by the cycles determined in Section B above to produce capital stocks. Table 7:33 shows estimates for the rate of profit and the organic composition of capital using Hampton's method.

Steven, Toward a Class Analysis of New Zealand, p118, calculates constant capital "by subtracting value added from value of output", and defines the organic composition of capital as C/(C+V). Table 7:35 calculates capital stocks on the basis on these definitions and 7:36 converts these to the rate of profit and organic composition.

Tables 7:38 to 7:40 show the rate of capital accumulation as suggested by these different sets of definition.

TABLE 7:30 RATE OF PROFIT & ORGANIC COMPOSITION AFTER SHAIKH
REVISED FACTORY PRODUCTION 1923-70

	CONSTANT	NON PROD. WAGES	SHAIKH'S CONSTANT CAPITAL	VARIABLE	SHAIKH'S SURPLUS VALUE	SHAIKH'S RATE OF PROFIT	SHAIKH'S ORGANIC COMPOSITION
1923	70,738	787	69,950	3,730	16,971	23.03	18.76
1924	76,748	932	75,816	3,928	18,372	23.04	19.30
1925	75,980	910	75,070	4,096	14,940	18.87	18.33
1926	79,013	1,238	77,775	3,853	19,188	23.51	20.19
1927	80,677	1,248	79,430	3,623	18,549	22.33	21.92
1928	82,480	1,263	81,217	3,682	20,232	23.83	22.06
1929	84,924	958	83,967	4,374	17,909	20.27	19.20
1930	81,456	857	80,600	4,100	16,711	19.73	19.66
1931	75,874	701	75,173	3,315	12,500	15.93	22.68
1932	75,921	738	75,183	3,024	12,804	16.37	24.86
1933	74,210	683	73,527	3,031	15,238	19.90	24.26
1934	76,969	718	76,250	3,413	16,755	21.03	22.34
1935	80,126	827	79,299	3,804	18,952	22.81	20.84
1936	84,975	928	84,047	4,800	21,136	23.79	17.51
1937	92,586	974	91,611	5,814	22,903	23.51	15.76
1938	96,557	1,026	95,531	6,139	23,103	22.72	15.56
1939	105,394	1,118	104,275	6,846	26,434	23.79	15.23
1940	116,055	1,216	114,839	7,841	30,551	24.90	14.65
1941	122,165	1,334	120,831	8,643	34,466	26.62	13.98
1942	126,916	1,432	125,484	9,461	39,094	28.97	13.26
1943	136,007	1,529	134,479	10,341	42,399	29.28	13.00
1944	143,681	1,646	142,036	11,117	44,221	28.87	12.78
1945	152,079	1,877	150,201	12,216	45,912	28.27	12.30
1946	168,505	2,114	166,390	13,090	54,380	30.30	12.71
1947	208,733	2,473	206,260	15,905	61,069	27.49	12.97

TABLE 7:30 RATE OF PROFIT & ORGANIC COMPOSITION AFTER SHAIKH
REVISED FACTORY PRODUCTION 1923-70

	CONSTANT	NON PROD. WAGES	SHAIKH'S CONSTANT CAPITAL	VARIABLE	SHAIKH'S SURPLUS VALUE	SHAIKH'S RATE OF PROFIT	SHAIKH'S ORGANIC COMPOSITION
1949	231,018	2,654	228,364	17,867	78,006	31.68	12.78
1950	272,781	3,056	269,725	20,673	73,569	25.33	13.05
1951	300,532	3,380	297,153	22,845	104,150	32.55	13.01
1952	329,529	3,778	325,751	23,726	103,387	29.58	13.73
1953	361,500	4,132	357,367	26,283	114,627	29.88	13.60
1954	411,918	4,620	407,298	30,198	127,559	29.16	13.49
1955	482,872	5,226	477,646	32,515	132,249	25.92	14.69
1956	509,512	5,577	503,935	34,524	131,878	24.49	14.60
1957	554,854	11,257	543,597	38,645	142,834	24.53	14.07
1958	606,744	11,767	594,978	39,080	154,410	24.35	15.22
1959	645,455	12,489	632,966	40,605	195,095	28.96	15.59
1960	702,029	13,641	688,387	43,263	202,613	27.69	15.91
1961	792,851	14,748	778,103	46,648	235,391	28.54	16.68
1962	860,010	15,717	844,293	48,064	254,210	28.49	17.57
1963	927,647	17,242	910,405	52,014	301,362	31.31	17.50
1964	1,023,081	19,263	1,003,818	57,282	325,826	30.71	17.52
1965	1,153,727	21,563	1,132,164	64,880	381,843	31.90	17.45
1966	1,287,367	23,818	1,263,549	72,400	392,868	29.41	17.45
1967	1,356,695	24,623	1,332,072	75,352	412,217	29.29	17.68
1968	1,429,623	26,509	1,403,114	81,032	450,561	30.36	17.32
1969	1,658,159	29,905	1,628,254	90,329	516,242	30.04	18.03
1970	1,829,727	35,461	1,794,266	107,162	582,519	30.64	16.74

TABLE 7:31 FLUCTUATIONS IN SHAIKH'S PROFIT RATE & ORGANIC COMPOSITION
REVISED FACTORY PRODUCTION, 1923-70

	RATE OF PROFIT				ORGANIC COMPOSITION				INDEX 1923=100	
		PR.	INCREASE			PR.	INCREASE		PROFIT	ORGANIC
	TOTAL	TOTAL	NO.	PERCENT	TOTAL	TOTAL	NO	%	RATE	COMP'N
1923	23.03				18.76				100	100
1924	23.04	23.03	0.01	0.02	19.30	18.76	0.55	2.92	100	103
1925	18.87	23.04	-4.17	-18.09	18.33	19.30	-0.98	-5.05	82	98
1926	23.51	18.87	4.64	24.56	20.19	18.33	1.86	10.15	102	108
1927	22.33	23.51	-1.17	-4.99	21.92	20.19	1.73	8.59	97	117
1928	23.83	22.33	1.50	6.70	22.06	21.92	0.14	0.62	103	118
1929	20.27	23.83	-3.56	-14.93	19.20	22.06	-2.86	-12.96	88	102
1930	19.73	20.27	-0.54	-2.68	19.66	19.20	0.46	2.41	86	105
1931	15.93	19.73	-3.80	-19.28	22.68	19.66	3.02	15.35	69	121
1932	16.37	15.93	0.45	2.80	24.86	22.68	2.18	9.62	71	133
1933	19.90	16.37	3.53	21.57	24.26	24.86	-0.60	-2.43	86	129
1934	21.03	19.90	1.13	5.67	22.34	24.26	-1.92	-7.90	91	119
1935	22.81	21.03	1.77	8.43	20.84	22.34	-1.50	-6.69	99	111
1936	23.79	22.81	0.98	4.31	17.51	20.84	-3.33	-15.99	103	93
1937	23.51	23.79	-0.28	-1.18	15.76	17.51	-1.75	-10.01	102	84
1938	22.72	23.51	-0.78	-3.34	15.56	15.76	-0.20	-1.26	99	83
1939	23.79	22.72	1.06	4.68	15.23	15.56	-0.33	-2.12	103	81
1940	24.90	23.79	1.11	4.69	14.65	15.23	-0.58	-3.84	108	78
1941	26.62	24.90	1.72	6.90	13.98	14.65	-0.67	-4.55	116	75
1942	28.97	26.62	2.35	8.83	13.26	13.98	-0.72	-5.12	126	71
1943	29.28	28.97	0.31	1.06	13.00	13.26	-0.26	-1.95	127	69
1944	28.87	29.28	-0.40	-1.38	12.78	13.00	-0.23	-1.76	125	68
1945	28.27	28.87	-0.61	-2.10	12.30	12.78	-0.48	-3.76	123	66
1946	30.30	28.27	2.03	7.18	12.71	12.30	0.42	3.38	132	68
1947	27.49	30.30	-2.81	-9.28	12.97	12.71	0.26	2.02	119	69

TABLE 7:31 FLUCTUATIONS IN SHAIKH'S PROFIT RATE & ORGANIC COMPOSITION
REVISED FACTORY PRODUCTION, 1923-70

	RATE OF PROFIT				ORGANIC COMPOSITION				INDEX 1923=100	
		PR.	INCREASE			PR.	INCREASE		PROFIT	ORGANIC
	TOTAL	TOTAL	NO.	PERCENT	TOTAL	TOTAL	NO	%	RATE	COMP'N
1949	31.68	27.49	4.19	15.25	12.78	12.97	-0.19	-1.44	138	68
1950	25.33	31.68	-6.35	-20.03	13.05	12.78	0.27	2.08	110	70
1951	32.55	25.33	7.21	28.47	13.01	13.05	-0.04	-0.31	141	69
1952	29.58	32.55	-2.96	-9.11	13.73	13.01	0.72	5.55	128	73
1953	29.88	29.58	0.29	1.00	13.60	13.73	-0.13	-0.97	130	72
1954	29.16	29.88	-0.72	-2.41	13.49	13.60	-0.11	-0.80	127	72
1955	25.92	29.16	-3.23	-11.09	14.69	13.49	1.20	8.91	113	78
1956	24.49	25.92	-1.43	-5.52	14.60	14.69	-0.09	-0.64	106	78
1957	24.53	24.49	0.04	0.16	14.07	14.60	-0.53	-3.63	107	75
1958	24.35	24.53	-0.18	-0.73	15.22	14.07	1.16	8.23	106	81
1959	28.96	24.35	4.61	18.94	15.59	15.22	0.36	2.39	126	83
1960	27.69	28.96	-1.27	-4.39	15.91	15.59	0.32	2.07	120	85
1961	28.54	27.69	0.85	3.06	16.68	15.91	0.77	4.83	124	89
1962	28.49	28.54	-0.05	-0.19	17.57	16.68	0.89	5.31	124	94
1963	31.31	28.49	2.83	9.92	17.50	17.57	-0.06	-0.36	136	93
1964	30.71	31.31	-0.61	-1.94	17.52	17.50	0.02	0.12	133	93
1965	31.90	30.71	1.19	3.88	17.45	17.52	-0.07	-0.42	139	93
1966	29.41	31.90	-2.49	-7.81	17.45	17.45	0.00	0.01	128	93
1967	29.29	29.41	-0.12	-0.40	17.68	17.45	0.23	1.29	127	94
1968	30.36	29.29	1.07	3.65	17.32	17.68	-0.36	-2.05	132	92
1969	30.04	30.36	-0.32	-1.05	18.03	17.32	0.71	4.10	130	96
1970	30.64	30.04	0.60	1.99	16.74	18.03	-1.28	-7.11	133	89

TABLE 7:32 STOCKS OF CAPITAL CALCULATED AFTER HAMPTON
REVISED FACTORY PRODUCTION, 1923-70

	ANNUAL FLOW CONSTANT CAPITAL-					------STOCK-------				
	FIXED	-----CIRCULATING CAPITAL------			ANNUAL	CIRC'G	CONSTANT	WAGES &	CYCLES PER	VARIABLE CAPITAL
	DEPREC'N	O.P.E.	R. MATS	TOTAL	CYCLES	CAPITAL	CAPITAL	SALARIES	YEAR	STOCK
1923	1,334	5,924	57,946	63,870	4.09	15,606	16,940	24,662	5.04	4,889
1924	1,399	6,415	68,820	75,235	4.15	18,128	19,527	26,652	5.02	5,306
1925	1,456	7,009	67,382	74,391	5.19	14,338	15,794	28,754	5.37	5,355
1926	1,154	7,400	60,370	67,770	4.25	15,929	17,083	28,740	5.07	5,665
1927	1,067	7,620	71,422	79,042	4.88	16,188	17,255	28,226	5.23	5,395
1928	2,008	8,169	69,414	77,583	4.69	16,550	18,558	28,534	5.20	5,486
1929	2,230	8,522	68,186	76,708	4.39	17,473	19,703	29,622	5.15	5,756
1930	2,164	7,450	58,294	65,744	4.11	16,003	18,167	27,148	5.07	5,355
1931	1,968	6,565	46,680	53,245	3.77	14,136	16,104	21,490	4.91	4,375
1932	2,190	6,207	48,142	54,349	3.89	13,986	16,176	20,412	4.94	4,134
1933	2,040	6,111	54,478	60,589	4.24	14,295	16,335	20,486	5.08	4,030
1934	2,183	6,660	64,220	70,880	4.39	16,145	18,328	22,840	5.13	4,454
1935	2,324	7,274	69,428	76,702	4.42	17,371	19,695	25,720	5.15	4,998
1936	2,488	8,470	83,940	92,410	4.68	19,738	22,226	32,042	5.24	6,116
1937	2,597	8,375	90,216	98,591	4.29	22,988	25,585	37,022	5.12	7,226
1938	2,684	7,722	90,284	98,006	4.36	22,495	25,179	39,294	5.16	7,617
1939	3,964	8,752	103,218	111,970	4.28	26,157	30,121	43,454	5.13	8,465
1940	3,512	9,289	123,270	132,559	3.93	33,689	37,201	48,052	4.98	9,656
1941	3,784	10,044	133,302	143,346	3.93	36,436	40,220	53,014	4.99	10,630
1942	4,020	10,420	147,350	157,770	4.09	38,580	42,600	58,478	5.06	11,564
1943	4,216	11,460	159,366	170,826	3.86	44,268	48,484	62,658	4.96	12,630
1944	4,281	12,419	170,952	183,371	3.98	46,047	50,328	67,914	5.01	13,558
1945	4,804	13,117	180,952	194,069	4.03	48,123	52,927	75,412	5.03	14,988
1946	5,571	14,157	203,608	217,765	3.87	56,240	61,811	82,492	4.96	16,628
1947	6,904	16,356	259,486	275,842	3.38	81,566	88,470	95,764	4.69	20,410

TABLE 7:32 STOCKS OF CAPITAL CALCULATED AFTER HAMPTON
REVISED FACTORY PRODUCTION, 1923-70

	ANNUAL FLOW CONSTANT CAPITAL-					------STOCK-------				
	FIXED	-----CIRCULATING CAPITAL------			ANNUAL	CIRC'G	CONSTANT	WAGES &	CYCLES PER	VARIABLE CAPITAL
	DEPREC'N	O.P.E.	R. MATS	TOTAL	CYCLES	CAPITAL	CAPITAL	SALARIES	YEAR	STOCK
1949	9,705	17,674	313,554	331,228	4.13	80,297	90,002	112,092	5.05	22,214
1950	11,495	23,659	402,612	426,271	4.15	102,637	114,132	128,900	4.99	25,830
1951	12,791	24,410	439,000	463,410	4.18	110,925	123,716	144,470	5.05	28,617
1952	14,069	27,209	477,160	504,369	4.19	120,290	134,359	150,672	5.03	29,973
1953	16,052	33,116	512,676	545,792	4.18	130,470	146,522	166,898	5.03	33,163
1954	19,430	42,193	575,546	617,739	4.17	148,015	167,445	190,396	5.03	37,843
1955	25,502	48,346	606,084	654,430	4.17	157,093	182,595	209,016	5.03	41,548
1956	23,368	51,177	626,194	677,371	4.14	163,491	186,859	214,580	5.02	42,785
1957	29,433	56,586	667,996	724,582	3.93	184,229	213,662	232,266	4.85	47,925
1958	29,377	63,683	682,862	746,545	3.70	201,614	230,991	248,660	5.01	49,592
1959	29,049	66,513	710,386	776,899	3.78	205,659	234,708	264,088	4.97	53,140
1960	31,231	72,371	783,468	855,839	4.12	207,485	238,716	292,408	5.20	56,209
1961	35,061	80,038	820,496	900,534	3.86	233,308	268,369	314,256	5.18	60,725
1962	41,275	84,331	845,684	930,015	4.11	226,383	267,658	330,484	5.20	63,510
1963	44,989	90,739	984,058	1,074,797	4.28	251,188	296,177	359,934	5.28	68,117
1964	51,425	102,252	1,137,830	1,240,082	4.55	272,713	324,138	402,534	5.33	75,552
1965	60,838	112,550	1,203,081	1,315,631	4.37	300,998	361,836	445,041	5.19	85,677
1966	66,430	124,519	1,240,263	1,364,782	4.04	338,053	404,483	481,560	5.01	96,101
1967	68,140	131,495	1,286,478	1,417,973	3.86	367,526	435,666	484,484	4.81	100,663
1968	70,804	146,081	1,451,594	1,597,675	4.10	389,542	460,346	516,327	4.75	108,788
1969	79,466	166,988	1,674,899	1,841,887	4.14	445,085	524,551	596,703	4.86	122,778
1970	88,465	199,340	1,878,245	2,077,585	4.19	495,540	584,005	720,864	4.88	147,785

TABLE 7:33 HAMPTON'S PROFIT RATE & ORGANIC COMPOSITION
REVISED FACTORY PRODUCTION, 1923-70

	CALCULATED AFTER HAMPTON				
	--CAPITAL STOCKS--- CONSTANT	VARIABLE	SURPLUS VALUE	ORGANIC COMPOS'N	PROFIT RATE %
1923	16,940	4,889	7,145	3.46	32.73
1924	19,527	5,306	7,260	3.68	29.24
1925	15,794	5,355	3,294	2.95	15.58
1926	17,083	5,665	4,528	3.02	19.90
1927	17,255	5,395	3,538	3.20	15.62
1928	18,558	5,486	4,872	3.38	20.26
1929	19,703	5,756	4,577	3.42	17.98
1930	18,167	5,355	3,273	3.39	13.92
1931	16,104	4,375	1,755	3.68	8.57
1932	16,176	4,134	5,330	3.91	26.24
1933	16,335	4,030	8,430	4.05	41.39
1934	18,328	4,454	9,551	4.11	41.92
1935	19,695	4,998	10,897	3.94	44.13
1936	22,226	6,116	12,197	3.63	43.03
1937	25,585	7,226	13,451	3.54	41.00
1938	25,179	7,617	13,223	3.31	40.32
1939	30,121	8,465	16,663	3.56	43.18
1940	37,201	9,656	18,709	3.85	39.93
1941	40,220	10,630	21,527	3.78	42.33
1942	42,600	11,564	24,990	3.68	46.14
1943	48,484	12,630	27,211	3.84	44.53
1944	50,328	13,558	28,179	3.71	44.11
1945	52,927	14,988	27,942	3.53	41.14
1946	61,811	16,628	32,478	3.72	41.41
1947	88,470	20,410	34,836	4.33	32.00
1949	90,002	22,214	50,271	4.05	44.80
1950	114,132	25,830	40,871	4.42	29.20
1951	123,716	28,617	68,381	4.32	44.89
1952	134,359	29,973	64,661	4.48	39.35
1953	146,522	33,163	72,269	4.42	40.22
1954	167,445	37,843	80,756	4.42	39.34
1955	182,595	41,548	77,362	4.39	34.51
1956	186,859	42,785	77,416	4.37	33.71
1957	213,662	47,925	86,318	4.46	33.00
1958	230,991	49,592	90,122	4.66	32.12
1959	234,708	53,140	119,998	4.42	41.69
1960	238,716	56,209	120,842	4.25	40.97
1961	268,369	60,725	146,328	4.42	44.46
1962	267,658	63,510	155,316	4.21	46.90
1963	296,177	68,117	195,924	4.35	53.78
1964	324,138	75,552	205,274	4.29	51.36
1965	361,836	85,677	247,035	4.22	55.20
1966	404,483	96,101	243,607	4.21	48.66
1967	435,666	100,663	257,494	4.33	48.01
1968	460,346	108,788	283,582	4.23	49.83
1969	524,551	122,778	319,314	4.27	49.33
1970	584,005	147,785	338,671	3.95	46.28

TABLE 7:34 FLUCTUATIONS IN HAMPTON'S PROFIT RATE & ORGANIC COMPOSITION
REVISED FACTORY PRODUCTION, 1923-70

	RATE OF PROFIT				ORGANIC COMPOSITION				INDEX	
		PR.	INCREASE			PR.	INCREASE		RATE	ORGANIC
	RATE	RATE	NO.	PERCENT	RATIO	RATIO	NO	%	PROFIT	COMPOS'N
1923	32.73				3.46				100	100
1924	29.24	32.73	-3.50	-10.68	3.68	3.46	0.22	6.21	89	106
1925	15.58	29.24	-13.66	-46.72	2.95	3.68	-0.73	-19.86	48	85
1926	19.90	15.58	4.33	27.79	3.02	2.95	0.07	2.24	61	87
1927	15.62	19.90	-4.28	-21.52	3.20	3.02	0.18	6.07	48	92
1928	20.26	15.62	4.64	29.72	3.38	3.20	0.18	5.77	62	98
1929	17.98	20.26	-2.28	-11.28	3.42	3.38	0.04	1.19	55	99
1930	13.92	17.98	-4.06	-22.60	3.39	3.42	-0.03	-0.89	43	98
1931	8.57	13.92	-5.35	-38.41	3.68	3.39	0.29	8.51	26	106
1932	26.24	8.57	17.67	206.22	3.91	3.68	0.23	6.28	80	113
1933	41.39	26.24	15.15	57.74	4.05	3.91	0.14	3.61	126	117
1934	41.92	41.39	0.53	1.28	4.11	4.05	0.06	1.51	128	119
1935	44.13	41.92	2.20	5.26	3.94	4.11	-0.17	-4.23	135	114
1936	43.03	44.13	-1.09	-2.48	3.63	3.94	-0.31	-7.77	131	105
1937	41.00	43.03	-2.04	-4.74	3.54	3.63	-0.09	-2.57	125	102
1938	40.32	41.00	-0.68	-1.65	3.31	3.54	-0.24	-6.64	123	96
1939	43.18	40.32	2.87	7.11	3.56	3.31	0.25	7.65	132	103
1940	39.93	43.18	-3.26	-7.54	3.85	3.56	0.29	8.26	122	111
1941	42.33	39.93	2.41	6.03	3.78	3.85	-0.07	-1.79	129	109
1942	46.14	42.33	3.80	8.98	3.68	3.78	-0.10	-2.64	141	106
1943	44.53	46.14	-1.61	-3.49	3.84	3.68	0.16	4.21	136	111
1944	44.11	44.53	-0.42	-0.94	3.71	3.84	-0.13	-3.31	135	107
1945	41.14	44.11	-2.97	-6.72	3.53	3.71	-0.18	-4.87	126	102
1946	41.41	41.14	0.26	0.64	3.72	3.53	0.19	5.27	127	107
1947	32.00	41.41	-9.41	-22.73	4.33	3.72	0.62	16.61	98	125

TABLE 7:34 FLUCTUATIONS IN HAMPTON'S PROFIT RATE & ORGANIC COMPOSITION
REVISED FACTORY PRODUCTION, 1923-70

	RATE OF PROFIT				ORGANIC COMPOSITION				INDEX	
		PR.	INCREASE			PR.	INCREASE		RATE	ORGANIC
	RATE	RATE	NO.	PERCENT	RATIO	RATIO	NO	%	PROFIT	COMPOS'N
1949	44.80	32.00	12.80	40.02	4.05	4.33	-0.28	-6.53	137	117
1950	29.20	44.80	-15.60	-34.82	4.42	4.05	0.37	9.05	89	128
1951	44.89	29.20	15.69	53.72	4.32	4.42	-0.10	-2.16	137	125
1952	39.35	44.89	-5.54	-12.34	4.48	4.32	0.16	3.69	120	130
1953	40.22	39.35	0.87	2.22	4.42	4.48	-0.06	-1.44	123	128
1954	39.34	40.22	-0.88	-2.19	4.42	4.42	0.01	0.15	120	128
1955	34.51	39.34	-4.82	-12.26	4.39	4.42	-0.03	-0.68	105	127
1956	33.71	34.51	-0.80	-2.33	4.37	4.39	-0.03	-0.63	103	126
1957	33.00	33.71	-0.71	-2.12	4.46	4.37	0.09	2.08	101	129
1958	32.12	33.00	-0.88	-2.66	4.66	4.46	0.20	4.48	98	135
1959	41.69	32.12	9.57	29.79	4.42	4.66	-0.24	-5.17	127	128
1960	40.97	41.69	-0.71	-1.71	4.25	4.42	-0.17	-3.85	125	123
1961	44.46	40.97	3.49	8.52	4.42	4.25	0.17	4.06	136	128
1962	46.90	44.46	2.44	5.48	4.21	4.42	-0.20	-4.64	143	122
1963	53.78	46.90	6.88	14.67	4.35	4.21	0.13	3.17	164	126
1964	51.36	53.78	-2.42	-4.51	4.29	4.35	-0.06	-1.33	157	124
1965	55.20	51.36	3.84	7.48	4.22	4.29	-0.07	-1.56	169	122
1966	48.66	55.20	-6.54	-11.84	4.21	4.22	-0.01	-0.34	149	122
1967	48.01	48.66	-0.65	-1.34	4.33	4.21	0.12	2.83	147	125
1968	49.83	48.01	1.82	3.78	4.23	4.33	-0.10	-2.23	152	122
1969	49.33	49.83	-0.50	-1.00	4.27	4.23	0.04	0.96	151	123
1970	46.28	49.33	-3.05	-6.18	3.95	4.27	-0.32	-7.50	141	114

TABLE 7:35 CAPITAL STOCKS CALCULATED AFTER STEVEN
REVISED FACTORY PRODUCTION, 1923-70

	VALUE OF OUTPUT	VALUE ADDED IN MANUFACTURE	CONSTANT CAPITAL	-----VARIABLE CAPITAL----- WAGES & SALARIES	ANNUAL CYCLES	STOCK	TOTAL CAPITAL STOCK
1923	103,378	45,432	57,946	24,662	5.04	4,889	62,835
1924	117,410	48,590	68,820	26,652	5.02	5,306	74,126
1925	115,818	48,436	67,382	28,754	5.37	5,355	72,737
1926	110,916	50,546	60,370	28,740	5.07	5,665	66,035
1927	120,990	49,568	71,422	28,226	5.23	5,395	76,817
1928	122,638	53,224	69,414	28,534	5.20	5,486	74,900
1929	123,240	55,054	68,186	29,622	5.15	5,756	73,942
1930	108,684	50,390	58,294	27,148	5.07	5,355	63,649
1931	86,990	40,310	46,680	21,490	4.91	4,375	51,055
1932	87,090	38,948	48,142	20,412	4.94	4,134	52,276
1933	95,996	41,518	54,478	20,486	5.08	4,030	58,508
1934	110,284	46,064	64,220	22,840	5.13	4,454	68,674
1935	120,802	51,374	69,428	25,720	5.15	4,998	74,426
1936	145,020	61,080	83,940	32,042	5.24	6,116	90,056
1937	157,470	67,254	90,216	37,022	5.12	7,226	97,442
1938	158,546	68,262	90,284	39,294	5.16	7,617	97,901
1939	180,966	77,748	103,218	43,454	5.13	8,465	111,683
1940	209,258	85,988	123,270	48,052	4.98	9,656	132,926
1941	228,586	95,284	133,302	53,014	4.99	10,630	143,932
1942	252,576	105,226	147,350	58,478	5.06	11,564	158,914
1943	273,050	113,684	159,366	62,658	4.96	12,630	171,996
1944	292,268	121,316	170,952	67,914	5.01	13,558	184,510
1945	311,318	130,366	180,952	75,412	5.03	14,988	195,940
1946	348,292	144,684	203,608	82,492	4.96	16,628	220,236
1947	424,932	165,446	259,486	95,764	4.69	20,410	279,896

TABLE 7:35 CAPITAL STOCKS CALCULATED AFTER STEVEN
REVISED FACTORY PRODUCTION, 1923-70

	VALUE OF OUTPUT	VALUE ADDED IN MANUFACTURE	CONSTANT CAPITAL	-----VARIABLE CAPITAL----- WAGES & SALARIES	ANNUAL CYCLES	STOCK	TOTAL CAPITAL STOCK
1949	515,604	202,050	313,554	112,092	5.05	22,214	335,768
1950	623,638	221,026	402,612	128,900	4.99	25,830	428,442
1951	706,880	267,880	439,000	144,470	5.05	28,617	467,617
1952	752,838	275,678	477,160	150,672	5.03	29,973	507,133
1953	821,608	308,932	512,676	166,898	5.03	33,163	545,839
1954	931,206	355,660	575,546	190,396	5.03	37,843	613,389
1955	992,136	386,052	606,084	209,016	5.03	41,548	647,632
1956	1,023,028	396,834	626,194	214,580	5.02	42,785	668,979
1957	1,102,854	434,858	667,996	232,266	4.85	47,925	715,921
1958	1,146,208	463,346	682,862	248,660	5.01	49,592	732,454
1959	1,223,632	513,246	710,386	264,088	4.97	53,140	763,526
1960	1,338,232	554,764	783,468	292,408	5.20	56,209	839,677
1961	1,436,380	615,884	820,496	314,256	5.18	60,725	881,221
1962	1,501,106	655,422	845,684	330,484	5.20	63,510	909,194
1963	1,724,188	740,130	984,058	359,934	5.28	68,117	1,052,175
1964	1,953,776	815,946	1,137,830	402,534	5.33	75,552	1,213,382
1965	2,131,297	928,216	1,203,081	445,041	5.19	85,677	1,288,758
1966	2,226,470	986,207	1,240,263	481,560	5.01	96,101	1,336,364
1967	2,300,510	1,014,032	1,286,478	484,484	4.81	100,663	1,387,141
1968	2,547,307	1,095,713	1,451,594	516,327	4.75	108,788	1,560,382
1969	2,927,826	1,252,927	1,674,899	596,703	4.86	122,778	1,797,677
1970	3,334,043	1,455,798	1,878,245	720,864	4.88	147,785	2,026,030

TABLE 7:36 STEVEN'S PROFIT RATE & ORGANIC COMPOSITION
REVISED FACTORY PRODUCTION, 1923-70

	VALUE RELATIONS AFTER STEVEN				
	CONSTANT CAPITAL	WAGES & SALARIES	C% (C+V)	SURPLUS VALUE	S% (C+V)
1923	57,946	24,662	70.15	20,770	25.14
1924	68,820	26,652	72.08	21,938	22.98
1925	67,382	28,754	70.09	19,682	20.47
1926	60,370	28,740	67.75	21,806	24.47
1927	71,422	28,226	71.67	21,342	21.42
1928	69,414	28,534	70.87	24,690	25.21
1929	68,186	29,622	69.71	25,432	26.00
1930	58,294	27,148	68.23	23,242	27.20
1931	46,680	21,490	68.48	18,820	27.61
1932	48,142	20,412	70.22	18,536	27.04
1933	54,478	20,486	72.67	21,032	28.06
1934	64,220	22,840	73.77	23,224	26.68
1935	69,428	25,720	72.97	25,654	26.96
1936	83,940	32,042	72.37	29,038	25.04
1937	90,216	37,022	70.90	30,232	23.76
1938	90,284	39,294	69.68	28,968	22.36
1939	103,218	43,454	70.37	34,294	23.38
1940	123,270	48,052	71.95	37,936	22.14
1941	133,302	53,014	71.55	42,270	22.69
1942	147,350	58,478	71.59	46,748	22.71
1943	159,366	62,658	71.78	51,026	22.98
1944	170,952	67,914	71.57	53,402	22.36
1945	180,952	75,412	70.58	54,954	21.44
1946	203,608	82,492	71.17	62,192	21.74
1947	259,486	95,764	73.04	69,682	19.61
1949	313,554	112,092	73.67	89,958	21.13
1950	402,612	128,900	75.75	92,126	17.33
1951	439,000	144,470	75.24	123,410	21.15
1952	477,160	150,672	76.00	125,006	19.91
1953	512,676	166,898	75.44	142,034	20.90
1954	575,546	190,396	75.14	165,264	21.58
1955	606,084	209,016	74.36	177,036	21.72
1956	626,194	214,580	74.48	182,254	21.68
1957	667,996	232,266	74.20	202,592	22.50
1958	682,862	248,660	73.31	214,686	23.05
1959	710,386	264,088	72.90	249,158	25.57
1960	783,468	292,408	72.82	262,356	24.39
1961	820,496	314,256	72.31	301,628	26.58
1962	845,684	330,484	71.90	324,938	27.63
1963	984,058	359,934	73.22	380,196	28.29
1964	1,137,830	402,534	73.87	413,412	26.84
1965	1,203,081	445,041	73.00	483,175	29.32
1966	1,240,263	481,560	72.03	504,647	29.31
1967	1,286,478	484,484	72.64	529,548	29.90
1968	1,451,594	516,327	73.76	579,386	29.44
1969	1,674,899	596,703	73.73	656,224	28.89
1970	1,878,245	720,864	72.26	734,934	28.28

TABLE 7:37 FLUCTUATIONS IN STEVENS PROFIT RATE & ORGANIC COMPOSITION
REVISED FACTIORY PRODUCTION, 1923-70

	ORGANIC COMPOSITION				RATE OF PROFIT				INDEX	
		PR.	INCREASE			PR.	INCREASE		ORGANIC	RATE
	RATIO	RATIO	NO.	PERCENT	RATE	RATE	NO	%	COMPOS'N	PROFIT
1923	70.15				25.14				100	100
1924	72.08	70.15	1.94	2.76	22.98	25.14	-2.16	-8.61	103	91
1925	70.09	72.08	-1.99	-2.77	20.47	22.98	-2.51	-10.90	100	81
1926	67.75	70.09	-2.34	-3.34	24.47	20.47	4.00	19.53	97	97
1927	71.67	67.75	3.93	5.80	21.42	24.47	-3.05	-12.48	102	85
1928	70.87	71.67	-0.81	-1.12	25.21	21.42	3.79	17.70	101	100
1929	69.71	70.87	-1.15	-1.63	26.00	25.21	0.79	3.15	99	103
1930	68.23	69.71	-1.49	-2.13	27.20	26.00	1.20	4.62	97	108
1931	68.48	68.23	0.25	0.37	27.61	27.20	0.41	1.49	98	110
1932	70.22	68.48	1.75	2.55	27.04	27.61	-0.57	-2.06	100	108
1933	72.67	70.22	2.45	3.48	28.06	27.04	1.02	3.76	104	112
1934	73.77	72.67	1.09	1.50	26.68	28.06	-1.38	-4.92	105	106
1935	72.97	73.77	-0.80	-1.08	26.96	26.68	0.29	1.07	104	107
1936	72.37	72.97	-0.60	-0.82	25.04	26.96	-1.93	-7.14	103	100
1937	70.90	72.37	-1.47	-2.03	23.76	25.04	-1.28	-5.10	101	95
1938	69.68	70.90	-1.23	-1.73	22.36	23.76	-1.40	-5.91	99	89
1939	70.37	69.68	0.70	1.00	23.38	22.36	1.03	4.59	100	93
1940	71.95	70.37	1.58	2.24	22.14	23.38	-1.24	-5.30	103	88
1941	71.55	71.95	-0.41	-0.56	22.69	22.14	0.54	2.46	102	90
1942	71.59	71.55	0.04	0.06	22.71	22.69	0.02	0.11	102	90
1943	71.78	71.59	0.19	0.27	22.98	22.71	0.27	1.19	102	91
1944	71.57	71.78	-0.21	-0.29	22.36	22.98	-0.63	-2.72	102	89
1945	70.58	71.57	-0.98	-1.38	21.44	22.36	-0.92	-4.12	101	85
1946	71.17	70.58	0.58	0.83	21.74	21.44	0.30	1.41	101	86
1947	73.04	71.17	1.88	2.64	19.61	21.74	-2.12	-9.77	104	78

TABLE 7:37 FLUCTUATIONS IN STEVENS PROFIT RATE & ORGANIC COMPOSITION
REVISED FACTIORY PRODUCTION, 1923-70

	ORGANIC COMPOSITION				RATE OF PROFIT				INDEX	
		PR.	INCREASE			PR.	INCREASE		ORGANIC	RATE
	RATIO	RATIO	NO.	PERCENT	RATE	RATE	NO	%	COMPOS'N	PROFIT
1949	73.67	73.04	0.62	0.85	21.13	19.61	1.52	7.75	105	84
1950	75.75	73.67	2.08	2.83	17.33	21.13	-3.80	-17.99	108	69
1951	75.24	75.75	-0.51	-0.67	21.15	17.33	3.82	22.03	107	84
1952	76.00	75.24	0.76	1.01	19.91	21.15	-1.24	-5.86	108	79
1953	75.44	76.00	-0.56	-0.74	20.90	19.91	0.99	4.97	108	83
1954	75.14	75.44	-0.30	-0.40	21.58	20.90	0.68	3.23	107	86
1955	74.36	75.14	-0.79	-1.04	21.72	21.58	0.14	0.66	106	86
1956	74.48	74.36	0.12	0.16	21.68	21.72	-0.04	-0.20	106	86
1957	74.20	74.48	-0.28	-0.37	22.50	21.68	0.83	3.81	106	90
1958	73.31	74.20	-0.89	-1.21	23.05	22.50	0.54	2.41	104	92
1959	72.90	73.31	-0.41	-0.55	25.57	23.05	2.52	10.94	104	102
1960	72.82	72.90	-0.08	-0.11	24.39	25.57	-1.18	-4.63	104	97
1961	72.31	72.82	-0.52	-0.71	26.58	24.39	2.20	9.00	103	106
1962	71.90	72.31	-0.40	-0.56	27.63	26.58	1.05	3.93	102	110
1963	73.22	71.90	1.32	1.83	28.29	27.63	0.66	2.40	104	113
1964	73.87	73.22	0.65	0.89	26.84	28.29	-1.45	-5.13	105	107
1965	73.00	73.87	-0.87	-1.18	29.32	26.84	2.48	9.23	104	117
1966	72.03	73.00	-0.97	-1.32	29.31	29.32	-0.01	-0.03	103	117
1967	72.64	72.03	0.61	0.85	29.90	29.31	0.59	2.02	104	119
1968	73.76	72.64	1.12	1.54	29.44	29.90	-0.46	-1.54	105	117
1969	73.73	73.76	-0.03	-0.04	28.89	29.44	-0.55	-1.88	105	115
1970	72.26	73.73	-1.47	-1.99	28.28	28.89	-0.61	-2.12	103	112

TABLE 7:38 RATE OF CAPITAL ACCUMULATION AFTER SHAIKH
REVISED FACTORY PRODUCTION, 1923-70

	---CAPITAL STOCKS--- ----AFTER SHAIKH---- CONSTANT	VARIABLE	TOTAL CAPITAL ACCUMULATED	-RATE OF CAPITAL ACCUMULAT- PR. TOTAL	----INCREASE---- NO.	%
1923	69,950	3,730	73,680			
1924	75,816	3,928	79,744	73,680	6,064	8.23
1925	75,070	4,096	79,167	79,744	-577	-0.72
1926	77,775	3,853	81,627	79,167	2,461	3.11
1927	79,430	3,623	83,053	81,627	1,426	1.75
1928	81,217	3,682	84,899	83,053	1,846	2.22
1929	83,967	4,374	88,340	84,899	3,441	4.05
1930	80,600	4,100	84,699	88,340	-3,641	-4.12
1931	75,173	3,315	78,487	84,699	-6,212	-7.33
1932	75,183	3,024	78,207	78,487	-280	-0.36
1933	73,527	3,031	76,558	78,207	-1,649	-2.11
1934	76,250	3,413	79,663	76,558	3,105	4.06
1935	79,299	3,804	83,103	79,663	3,439	4.32
1936	84,047	4,800	88,847	83,103	5,744	6.91
1937	91,611	5,814	97,425	88,847	8,578	9.66
1938	95,531	6,139	101,670	97,425	4,245	4.36
1939	104,275	6,846	111,122	101,670	9,451	9.30
1940	114,839	7,841	122,680	111,122	11,558	10.40
1941	120,831	8,643	129,474	122,680	6,794	5.54
1942	125,484	9,461	134,944	129,474	5,470	4.22
1943	134,479	10,341	144,819	134,944	9,875	7.32
1944	142,036	11,117	153,153	144,819	8,333	5.75
1945	150,201	12,216	162,417	153,153	9,265	6.05
1946	166,390	13,090	179,480	162,417	17,063	10.51
1947	206,260	15,905	222,166	179,480	42,686	23.78

TABLE 7:38 RATE OF CAPITAL ACCUMULATION AFTER SHAIKH
REVISED FACTORY PRODUCTION, 1923-70

	---CAPITAL STOCKS--- ----AFTER SHAIKH---- CONSTANT	VARIABLE	TOTAL CAPITAL ACCUMULATED	-RATE OF CAPITAL ACCUMULAT- PR. TOTAL	----INCREASE---- NO.	%
1949	228,364	17,867	246,231	222,166	24,066	10.83
1950	269,725	20,673	290,398	246,231	44,167	17.94
1951	297,153	22,845	319,997	290,398	29,599	10.19
1952	325,751	23,726	349,477	319,997	29,480	9.21
1953	357,367	26,283	383,650	349,477	34,173	9.78
1954	407,298	30,198	437,496	383,650	53,846	14.04
1955	477,646	32,515	510,161	437,496	72,665	16.61
1956	503,935	34,524	538,459	510,161	28,298	5.55
1957	543,597	38,645	582,242	538,459	43,783	8.13
1958	594,978	39,080	634,057	582,242	51,815	8.90
1959	632,966	40,605	673,571	634,057	39,513	6.23
1960	688,387	43,263	731,650	673,571	58,079	8.62
1961	778,103	46,648	824,750	731,650	93,100	12.72
1962	844,293	48,064	892,357	824,750	67,607	8.20
1963	910,405	52,014	962,419	892,357	70,062	7.85
1964	1,003,818	57,282	1,061,100	962,419	98,681	10.25
1965	1,132,164	64,880	1,197,044	1,061,100	135,944	12.81
1966	1,263,549	72,400	1,335,949	1,197,044	138,905	11.60
1967	1,332,072	75,352	1,407,424	1,335,949	71,475	5.35
1968	1,403,114	81,032	1,484,146	1,407,424	76,722	5.45
1969	1,628,254	90,329	1,718,582	1,484,146	234,436	15.80
1970	1,794,266	107,162	1,901,428	1,718,582	182,845	10.64

TABLE 7:39 CAPITAL ACCUMULATION AFTER HAMPTON
REVISED FACTORY PRODUCTION, 1923-70

	--CAPITAL STOCKS--- ---AFTER HAMPTON--- CONSTANT	VARIABLE	TOTAL CAPITAL ACCUMULATED	PR. TOTAL	---INCREASE---- NO.	%
1923	16,940	4,889	21,829			
1924	19,527	5,306	24,833	21,829	3,005	13.76
1925	15,794	5,355	21,149	24,833	-3,685	-14.84
1926	17,083	5,665	22,749	21,149	1,600	7.57
1927	17,255	5,395	22,649	22,749	-99	-0.44
1928	18,558	5,486	24,043	22,649	1,394	6.15
1929	19,703	5,756	25,458	24,043	1,415	5.88
1930	18,167	5,355	23,521	25,458	-1,937	-7.61
1931	16,104	4,375	20,479	23,521	-3,042	-12.93
1932	16,176	4,134	20,311	20,479	-168	-0.82
1933	16,335	4,030	20,365	20,311	54	0.27
1934	18,328	4,454	22,781	20,365	2,416	11.87
1935	19,695	4,998	24,693	22,781	1,912	8.39
1936	22,226	6,116	28,342	24,693	3,649	14.78
1937	25,585	7,226	32,811	28,342	4,469	15.77
1938	25,179	7,617	32,796	32,811	-15	-0.04
1939	30,121	8,465	38,585	32,796	5,789	17.65
1940	37,201	9,656	46,858	38,585	8,272	21.44
1941	40,220	10,630	50,850	46,858	3,993	8.52
1942	42,600	11,564	54,164	50,850	3,314	6.52
1943	48,484	12,630	61,114	54,164	6,949	12.83
1944	50,328	13,558	63,886	61,114	2,773	4.54
1945	52,927	14,988	67,915	63,886	4,029	6.31
1946	61,811	16,628	78,439	67,915	10,524	15.50
1947	88,470	20,410	108,879	78,439	30,440	38.81

TABLE 7:39 CAPITAL ACCUMULATION AFTER HAMPTON
REVISED FACTORY PRODUCTION, 1923-70

	--CAPITAL STOCKS--- ---AFTER HAMPTON--- CONSTANT	VARIABLE	TOTAL CAPITAL ACCUMULATED	PR. TOTAL	---INCREASE---- NO.	%
1949	90,002	22,214	112,216	108,879	3,337	3.06
1950	114,132	25,830	139,963	112,216	27,747	24.73
1951	123,716	28,617	152,333	139,963	12,370	8.84
1952	134,359	29,973	164,332	152,333	11,999	7.88
1953	146,522	33,163	179,685	164,332	15,353	9.34
1954	167,445	37,843	205,288	179,685	25,603	14.25
1955	182,595	41,548	224,143	205,288	18,855	9.18
1956	186,859	42,785	229,644	224,143	5,501	2.45
1957	213,662	47,925	261,588	229,644	31,944	13.91
1958	230,991	49,592	280,583	261,588	18,995	7.26
1959	234,708	53,140	287,848	280,583	7,265	2.59
1960	238,716	56,209	294,925	287,848	7,077	2.46
1961	268,369	60,725	329,095	294,925	34,170	11.59
1962	267,658	63,510	331,168	329,095	2,073	0.63
1963	296,177	68,117	364,295	331,168	33,127	10.00
1964	324,138	75,552	399,690	364,295	35,395	9.72
1965	361,836	85,677	447,513	399,690	47,822	11.96
1966	404,483	96,101	500,584	447,513	53,071	11.86
1967	435,666	100,663	536,328	500,584	35,745	7.14
1968	460,346	108,788	569,134	536,328	32,806	6.12
1969	524,551	122,778	647,329	569,134	78,195	13.74
1970	584,005	147,785	731,789	647,329	84,461	13.05

TABLE 7:40 RATE OF CAPITAL ACCUMULATION AFTER STEVEN REVISED FACTORY PRODUCTION, 1923-70

	TOTAL CAPITAL ACCUMULATED	PR. TOTAL	----INCREASE---- NO.	%
1923	62,835			
1924	74,126	62,835	11,291	17.97
1925	72,737	74,126	-1,389	-1.87
1926	66,035	72,737	-6,702	-9.21
1927	76,817	66,035	10,781	16.33
1928	74,900	76,817	-1,917	-2.50
1929	73,942	74,900	-958	-1.28
1930	63,649	73,942	-10,293	-13.92
1931	51,055	63,649	-12,594	-19.79
1932	52,276	51,055	1,222	2.39
1933	58,508	52,276	6,231	11.92
1934	68,674	58,508	10,166	17.38
1935	74,426	68,674	5,752	8.38
1936	90,056	74,426	15,630	21.00
1937	97,442	90,056	7,386	8.20
1938	97,901	97,442	459	0.47
1939	111,683	97,901	13,781	14.08
1940	132,926	111,683	21,244	19.02
1941	143,932	132,926	11,006	8.28
1942	158,914	143,932	14,982	10.41
1943	171,996	158,914	13,081	8.23
1944	184,510	171,996	12,515	7.28
1945	195,940	184,510	11,430	6.19
1946	220,236	195,940	24,296	12.40
1947	279,896	220,236	59,660	27.09
1949	335,768	279,896	55,872	19.96
1950	428,442	335,768	92,675	27.60
1951	467,617	428,442	39,174	9.14
1952	507,133	467,617	39,516	8.45
1953	545,839	507,133	38,707	7.63
1954	613,389	545,839	67,550	12.38
1955	647,632	613,389	34,243	5.58
1956	668,979	647,632	21,348	3.30
1957	715,921	668,979	46,942	7.02
1958	732,454	715,921	16,533	2.31
1959	763,526	732,454	31,072	4.24
1960	839,677	763,526	76,151	9.97
1961	881,221	839,677	41,544	4.95
1962	909,194	881,221	27,973	3.17
1963	1,052,175	909,194	142,981	15.73
1964	1,213,382	1,052,175	161,207	15.32
1965	1,288,758	1,213,382	75,375	6.21
1966	1,336,364	1,288,758	47,606	3.69
1967	1,387,141	1,336,364	50,777	3.80
1968	1,560,382	1,387,141	173,241	12.49
1969	1,797,677	1,560,382	237,295	15.21
1970	2,026,030	1,797,677	228,353	12.70

APPENDIX 8. CLASS STRUGGLE

STOPPAGES: STRIKES & LOCKOUTS

The systematic collection of strike statistics in New Zealand began in 1920. The major source is the returns filed by Factory Inspectors for each district. As with employment surveys, data is made available, and is analysed, by the Labour Department. The Department of Statistics, using Department of Labour records, has extended a number of series back to 1906. For all data prior to 1921, the duration of strikes and the number of workers directly and indirectly involved in work stoppages is not known. The 1906 to 1920 extensions to the series therefore are of only limited value.

The principal categories by which stoppages are described and analysed are the following; (1) Number of Stoppages, (2) Working Days Lost, (3) [number of] Workers Involved, (4) [number of] Firms Involved, (5) [estimated value of] Wages & Salaries Lost, (6) Duration of Stoppage. Generally these categories are broken down by industry and by regional location.

Over time various standard ratios have been devised to assist for historical and international comparisons. These include (a) the average number of days lost per worker and per 1000 workers, and the number of workers involved as a percentage of the total

number of wage and salary earners.

The most detailed information is available from the annual handbook on work stoppages prepared by the research division of the Labour Department. The annual bulletin Prices, Wages and Labour (Department of Statistics) summarises the data. From 1978 data are published in a separate bulletin Work Stoppages and Industrial Unions (Department of Statistics). Selected results are also published in MAS, the Labour & Employment Gazette, and NZOYB.

The definitions for the categories changed over time, partly as a consequence of changes in legal definition but mainly due to changes in the industrial classification system used. The principal Acts relating to industrial disputes are: the Industrial Conciliation and Arbitration Act 1894 (frequently amended), the Labour Disputes Investigation Act 1913, the Industrial Relations Act 1949, and the Industrial Relations Act 1973 plus amendments. The changes in definition and coverage are slight at the level of the national totals and for gross aggregates. The influence they exert can be disregarded in most cases.

The current term Work Stoppage supersedes the terms Industrial Dispute and Industrial Stoppage. To

1980 all three terms define the same set of events. From 1980 Work Stoppage includes stoppages not directly related to the terms of employment of persons directly involved, i.e. it covers stoppages supporting demands made of "third parties" (e.g. protests against the presence of nuclear-powered vessels, or against Government decrees or policies). As well, overtime bans, previously classified as partial stoppages (though an overtime ban by seamen in 1947 is excluded from even this statistic), are included. Most public sector stoppages are excluded throughout the 1906 to 1984 series.

Work Stoppage statistics cover only those disputes which result in a strike or lockout, or in which organised "go slows", "work to rule", overtime or "load out bans", i.e. where methods of "passive resistence" which result in a reduction of normal rate of output, are clearly manifested. Authorised stopwork meetings are excluded, but unauthorised stopwork meetings and unauthorised delays in resuming work after recognised stopwork meetings are included.

A single Stoppage may consist of several stoppages held at different times or places if they are over the same issue. Several stoppages are counted as one if (i) strikes are staged by groups of workers, related or

otherwise, in different locations but over the same issue at about the same time, or (ii) where successive stoppages occur over the same issue, generally within the space of one month ("rolling stoppages" count as one).

From 1976 national and industry level totals are not fully commensurate. Where stoppages occur in relation to a single issue but across several industrial divisions they will count as one in the national total but one each in the breakdowns by industrial sector (NZOYB, 1980 p820n). The overall effect of this inconsistency is minor.

The total for Work Stoppages includes partial or complete strikes and lockouts. Each is identified separately. The statistiacl definition for a strike is essentially that for legal purposes, but the distinction between "lawful" and "unlawful" is disregarded. The legal definition for strike has remained the same throughout the whole of the period covered though the range of "objectives" and "intents" of strike action recognised in legislation has broadened over time.

Since the primary concern of this appendix is to show the fluctuations in the level of class struggle it

is only necessary to know the incidence and duration of stoppages. The espoused causes, their methods of resolution, "intents" etc. are disregarded.

A strike is defined as "the act of any number of workers who are or have been in the employment of the same employer or different employers (a) in discontinuing that employment, whether wholly or partially, or in reducing their normal performance of it; or (b) in breaking their contracts of service; or (c) in refusing or failing after such a discontinuance to resume or return to their employment; or (d) in refusing or failing to accept engagement for any work in which they are usually employed; or (e) in reducing their normal output or their normal rate of work; the said act being due to any combination, agreement, common understanding, or concerted action, whether express or implied, made or entered into by workers; but does not include a stopwork meeting authorised by an employer" (Work Stoppages and Industrial Unions 1984, p7).

A "complete strike" as reported in official statistics refers to a complete cessation of work, including overtime bans (since 1980), unauthorised stopwork meetings and failure to resume work immediately following an authorised stopwork meeting.

By contrast, a "partial strike" refers to all cases where work rates are reduced short of cessation; "go-slows", "work to rules", load out and overtime (to 1980) bans.

A "lockout" is the act of an employer, "(a) in closing his place of business, or suspending or discontinuing his business or any branch thereof; or (b) in discontinuing the employment of any workers, whether wholly or partially; or (c) in breaking his contracts of service; or (d) in refusing to engage workers for any work for which he usually engages workers; with a view to compelling any workers, or to aid another employer in compelling any workers, to accept terms of employment or comply with any demands made by him" (ibid).

Workers Involved includes workers in the establishment or industry concerned who are not directly involved in the dispute but are involuntarily put out of work as a result of that dispute. The primary function of the aggregates Workers Involved and Working Days Lost is to demonstrate and quantify the economic impact of stoppages. The total Workers Involved covers all Stoppages (strikes & lockouts) and refers to the maximum number of workers involved at any point in the particular dispute.

APPENDIX 8. CLASS STRUGGLE

"It is never possible to ascertain how many separate people are involved in strikes over a period, since several strikes in the one industry may include the same persons, or an unknown proportion of them, more than once. The only figure available is the number of separate persons involved on each occasion; but when the separate strikes are added together in a period some people are counted several times over. It is not practicable except largely by guesswork to distinguish those who are involved more than once and to adjust the period totals in order to obtain the ..et number of persons participating. Thus, 50 individuals on strike on four occasions aggregate in these figures 200 persons: so does 200 individuals on strike only once. The "number of persons" expressed as a gross total over a period is therefore a somewhat artificial calculation. Nevertheless, the number of persons engaged in each separate strike can be ascertained accurately and is important. In the principal 1951 waterfront dispute, 22,764 separate persons were directly involved for varying periods". (Labour & Employment Gazette, Vol2, n1, Feb. 1952, pp35-36)

Working Days Lost is arrived at by multiplying the number of workers involved (Workers Involved) by the number of working days (i.e. excluding weekends and

public holidays) the particular stoppage lasts. It is thus assumed throughout that but for the stoppage work would have been continuous. Working days lost in waterfront stoppages as a result of the imposition of penalties under Port Bureau rules are included in the figures (NZOYB 1976, p881n). No allowance is made for loss of work which might have occurred had there been no stoppage. Nor is scab labour taken into account. Where stoppages do not reduce the total of work done in the year, but merely postpone its completion, the days lost are included in the total. Obviously this type of stoppage does not, in fact, reduce the total number of days worked.

From 1972 the total duration of stoppages is measured in working, not calendar, days. Where a number of stoppages occur in different locations but over the same issue they are treated as a single stoppage in the national totals and the total duration is always defined as the duration of the longest stoppage among them. This approach has a direct bearing on the ratios of average number of days lost per worker and per 1,000 workers.

There is no definition for Firms Affected by Stoppages in official publications. Whether totals include firms indirectly involved in disputes, e.g.

reduced output or complete cessation through lack of vital supplies, is not known. A comparison between Stoppages and Firms Affected suggests that for some cases at least firms indirectly involved are included; Firms Affected regularly exceeds Stoppages and never falls below them. It is assumed here that Firms Affected includes indirectly involved firms just as Workers Involved includes workers involuntarily out of work as a result of Stoppages.

Totals for 1966, 1970, 1971 and 1973-77 do not include a large (unknown) number of firms that were in fact affected by stoppages. Official reporting of Firms Affected was discontinued from 1978.

From 1946 half yearly surveys of employment were taken (from 1980 the survey is quarterly). Prior to 1946 data for the number of wage and salary earners in the economy come from the reports of quinquinnial Census. No attempt has been made in the relevant official publications to estimate the total number of wage and salary earners for the period 1906 to 1945. The ratios which depend on this figure are thus not available for this period in official publications. Where the half-yearly employment survey is used to estimate the number of wage and salary earners the figures for the year are those for mid-October to 1979,

and mid-November figures are used from 1980.

Table 8:1 shows both the number of Stoppages and the change in the number of Stoppages over the previous year for every year in the series. Tables 8:2 & 8:3 repeat the same steps for Workers Involved and Working Days Lost.

Table 8:4 shows the average number of Days Lost per Worker Involved (Days Lost/Workers Involved), the increase or decrease in Days Lost per Worker Involved over the previous year and Days Lost per 1000 Wage & salary Earners (Working Days Lost/(Wage & Salary Earners/1000)).

Table 8:5 shows the Estimated Loss of Wages through Stoppages in nominal and constant dollars for all Workers Involved and per Worker Involved for each year in the series. 8:6 indexes (100=1923) the values shown in 8:5.

Table 8:7 shows the number of Workers Involved as a fraction of Wage & Salary Earners.

Table 8:8 shows: the number of Firms Affected by Stoppages; the number of Stoppages per Firm Affected (Stoppages/Firms Affected); the number of Firms

Affected per Stoppages (Firms Affected/Stoppages); and the average number of Workers Involved per: Firm Affected (Workers Involved/Firms Affected); number of Firms Affected per Stoppage (average number Workers Involved/Firms Affected per Stoppage); Stoppages per Firm Affected (average number of Workers Involved per Firm Affected/Stoppages per Firm Affected).

Table 8:9 shows the average duration, to the nearest full day, of Stoppages each year.

Finally 8:10 shows the number of Stoppages officially designated as "Lock Outs" and the number of workers "locked out".

Sources for data in this appendix are as follows: for 1906 to 1924: NZOYB 1926, p782; for 1925 to 1983: Work Stoppages and Industrial Unions 1984 (Historical summary), except data for 1925 to 1977 on Firms Affected and the duration of stoppages, which are taken from Wages, Prices & Labour 1978, Part 2, p31 (historical summary); for 1984: NZOYB 1985, p896-7. The 1946 figure for the number of wage and salary earners is calculated from NZOYB 1947-49, p704 and 706 (October 1946 Survey of Employment).

TABLE 8:1 STOPPAGES
NEW ZEALAND, 1906-84

	STOPPAGES			PR.	INCREASE	
	COMPLETE	PARTIAL	TOTAL	TOTAL	NO.	%
1906	1	0	1			
1907	6	0	6	1	5	500.00
1908	2	0	2	6	-4	-66.67
1909	1	0	1	2	-1	-50.00
1910	13	2	15	1	14	1400.00
1911	22	0	22	15	7	46.67
1912	23	1	24	22	2	9.09
1913	73	0	73	24	49	204.17
1914	19	1	20	73	-53	-72.60
1915	7	1	8	20	-12	-60.00
1916	13	2	15	8	7	87.50
1917	35	10	45	15	30	200.00
1918	34	6	40	45	-5	-11.11
1919	33	12	45	40	5	12.50
1920	75	2	77	45	32	71.11
1921	68	9	77	77	0	0.00
1922	57	1	58	77	-19	-24.68
1923	47	2	49	58	-9	-15.52
1924	33	1	34	49	-15	-30.61
1925	81	0	81	34	47	138.24
1926	59	0	59	81	-22	-27.16
1927	38	0	38	59	-21	-35.59
1928	37	0	37	38	-1	-2.63
1929	47	0	47	37	10	27.03
1930	38	0	38	47	-9	-19.15
1931	23	0	23	38	-15	-39.47
1932	23	0	23	23	0	0.00
1933	15	0	15	23	-8	-34.78
1934	24	0	24	15	9	60.00
1935	12	0	12	24	-12	-50.00
1936	43	0	43	12	31	258.33
1937	51	1	52	43	9	20.93
1938	71	1	72	52	20	38.46
1939	66	0	66	72	-6	-8.33
1940	53	3	56	66	-10	-15.15
1941	88	1	89	56	33	58.93
1942	64	1	65	89	-24	-26.97
1943	66	3	69	65	4	6.15
1944	146	2	148	69	79	114.49
1945	146	8	154	148	6	4.05
1946	94	2	96	154	-58	-37.66
1947	128	6	134	96	38	39.58
1948	93	8	101	134	-33	-24.63
1949	119	4	123	101	22	21.78
1950	129	0	129	123	6	4.88
1951	106	3	109	129	-20	-15.50

TABLE 8:1 STOPPAGES
NEW ZEALAND, 1906-84

	STOPPAGES			PR.	INCREASE	
	COMPLETE	PARTIAL	TOTAL	TOTAL	NO.	%
1952	50	0	50	109	-59	-54.13
1953	73	0	73	50	23	46.00
1954	61	0	61	73	-12	-16.44
1955	64	1	65	61	4	6.56
1956	50	0	50	65	-15	-23.08
1957	51	0	51	50	1	2.00
1958	49	0	49	51	-2	-3.92
1959	73	0	73	49	24	48.98
1960	60	0	60	73	-13	-17.81
1961	66	5	71	60	11	18.33
1962	94	2	96	71	25	35.21
1963	59	1	60	96	-36	-37.50
1964	93	0	93	60	33	55.00
1965	99	4	103	93	10	10.75
1966	144	1	145	103	42	40.78
1967	86	3	89	145	-56	-38.62
1968	151	2	153	89	64	71.91
1969	161	8	169	153	16	10.46
1970	310	10	320	169	151	89.35
1971	290	22	312	320	-8	-2.50
1972	235	31	266	312	-46	-14.74
1973	355	36	391	266	125	46.99
1974	350	29	379	391	-12	-3.07
1975	396	31	427	379	48	12.66
1976	453	34	487	427	60	14.05
1977	538	24	562	487	75	15.40
1978	405	6	411	562	-151	-26.87
1979	507	14	521	411	110	26.76
1980	360	0	360	521	-161	-30.90
1981	283	6	289	360	-71	-19.72
1982	322	7	329	289	40	13.84
1983	331	1	332	329	3	0.91
1984	360	4	364	332	32	9.64

TABLE 8:2 WORKERS INVOLVED
NEW ZEALAND, 1906-84

	WORKERS INVOLVED	PR. TOTAL	----INCREASE----- NO.	%	INDEX 100= 1923
1906	88				1
1907	558	88	470	534.09	8
1908	63	558	-495	-88.71	1
1909	0	63	-63	-100.00	0
1910	255	0	255	*******	4
1911	1,375	255	1,120	439.22	19
1912	5,746	1,375	4,371	317.89	80
1913	13,400	5,746	7,654	133.21	187
1914	4,089	13,400	-9,311	-69.49	57
1915	295	4,089	-3,794	-92.79	4
1916	899	295	604	204.75	13
1917	2,734	899	1,835	204.12	38
1918	4,056	2,734	1,322	48.35	57
1919	4,030	4,056	-26	-0.64	56
1920	15,138	4,030	11,108	275.63	211
1921	10,433	15,138	-4,705	-31.08	146
1922	6,414	10,433	-4,019	-38.52	90
1923	7,162	6,414	748	11.66	100
1924	14,815	7,162	7,653	106.86	207
1925	9,905	14,815	-4,910	-33.14	138
1926	6,264	9,905	-3,641	-36.76	87
1927	4,476	6,264	-1,788	-28.54	62
1928	9,258	4,476	4,782	106.84	129
1929	7,151	9,258	-2,107	-22.76	100
1930	5,467	7,151	-1,684	-23.55	76
1931	6,356	5,467	889	16.26	89
1932	9,355	6,356	2,999	47.18	131
1933	3,558	9,355	-5,797	-61.97	50
1934	3,773	3,558	215	6.04	53
1935	2,323	3,773	-1,450	-38.43	32
1936	7,354	2,323	5,031	216.57	103
1937	11,411	7,354	4,057	55.17	159
1938	11,388	11,411	-23	-0.20	159
1939	15,682	11,388	4,294	37.71	219
1940	10,475	15,682	-5,207	-33.20	146
1941	15,261	10,475	4,786	45.69	213
1942	14,345	15,261	-916	-6.00	200
1943	10,915	14,345	-3,430	-23.91	152
1944	29,766	10,915	18,851	172.71	416
1945	39,418	29,766	9,652	32.43	550
1946	15,696	39,418	-23,722	-60.18	219
1947	26,970	15,696	11,274	71.83	377
1948	28,494	26,970	1,524	5.65	398
1949	61,536	28,494	33,042	115.96	859

TABLE 8:2 WORKERS INVOLVED
NEW ZEALAND, 1906-84

	WORKERS INVOLVED	PR. TOTAL	----INCREASE----- NO.	%	INDEX 100= 1923
1950	91,492	61,536	29,956	48.68	1,277
1951	36,878	91,492	-54,614	-59.69	515
1952	16,297	36,878	-20,581	-55.81	228
1953	22,175	16,297	5,878	36.07	310
1954	16,153	22,175	-6,022	-27.16	226
1955	20,224	16,153	4,071	25.20	282
1956	13,579	20,224	-6,645	-32.86	190
1957	15,545	13,579	1,966	14.48	217
1958	13,709	15,545	-1,836	-11.81	191
1959	18,762	13,709	5,053	36.86	262
1960	14,305	18,762	-4,457	-23.76	200
1961	16,626	14,305	2,321	16.23	232
1962	39,921	16,626	23,295	140.11	557
1963	14,911	39,921	-25,010	-62.65	208
1964	34,779	14,911	19,868	133.24	486
1965	15,267	34,779	-19,512	-56.10	213
1966	33,132	15,267	17,865	117.02	463
1967	28,490	33,132	-4,642	-14.01	398
1968	37,458	28,490	8,968	31.48	523
1969	44,041	37,458	6,583	17.57	615
1970	110,096	44,041	66,055	149.99	1,537
1971	86,009	110,096	-24,087	-21.88	1,201
1972	60,249	86,009	-25,760	-29.95	841
1973	115,865	60,249	55,616	92.31	1,618
1974	70,904	115,865	-44,961	-38.80	990
1975	74,820	70,904	3,916	5.52	1,045
1976	201,085	74,820	126,265	168.76	2,808
1977	159,407	201,085	-41,678	-20.73	2,226
1978	157,903	159,407	-1,504	-0.94	2,205
1979	158,195	157,903	292	0.18	2,209
1980	127,651	158,195	-30,544	-19.31	1,782
1981	135,006	127,651	7,355	5.76	1,885
1982	155,969	135,006	20,963	15.53	2,178
1983	140,730	155,969	-15,239	-9.77	1,965
1984	160,300	140,730	19,570	13.91	2,238

TABLE 8:3 WORK DAYS LOST PER YEAR
NEW ZEALAND, 1920-84

	WORKING DAYS LOST	PR. TOTAL	-----INCREASE------ NO.	%	INDEX 1923= 100
1920	54,735				27
1921	119,208	54,735	64,473	117.79	59
1922	93,456	119,208	-25,752	-21.60	46
1923	201,812	93,456	108,356	115.94	100
1924	89,105	201,812	-112,707	-55.85	44
1925	74,552	89,105	-14,553	-16.33	37
1926	47,811	74,552	-26,741	-35.87	24
1927	12,485	47,811	-35,326	-73.89	6
1928	21,997	12,485	9,512	76.19	11
1929	25,889	21,997	3,892	17.69	13
1930	31,669	25,889	5,780	22.33	16
1931	48,486	31,669	16,817	53.10	24
1932	108,605	48,486	60,119	123.99	54
1933	65,099	108,605	-43,506	-40.06	32
1934	10,393	65,099	-54,706	-84.04	5
1935	18,563	10,393	8,170	78.61	9
1936	16,980	18,563	-1,583	-8.53	8
1937	29,916	16,980	12,936	76.18	15
1938	35,456	29,916	5,540	18.52	18
1939	53,801	35,456	18,345	51.74	27
1940	28,097	53,801	-25,704	-47.78	14
1941	26,237	28,097	-1,860	-6.62	13
1942	51,189	26,237	24,952	95.10	25
1943	14,687	51,189	-36,502	-71.31	7
1944	52,602	14,687	37,915	258.15	26
1945	66,629	52,602	14,027	26.67	33
1946	30,393	66,629	-36,236	-54.38	15
1947	102,725	30,393	72,332	237.99	51
1948	93,464	102,725	-9,261	-9.02	46
1949	218,172	93,464	124,708	133.43	108
1950	271,475	218,172	53,303	24.43	135
1951	1,157,390	271,475	885,915	326.33	573
1952	28,123	1,157,390	-1,129,267	-97.57	14
1953	19,291	28,123	-8,832	-31.40	10
1954	20,474	19,291	1,183	6.13	10
1955	52,043	20,474	31,569	154.19	26
1956	23,870	52,043	-28,173	-54.13	12
1957	28,186	23,870	4,316	18.08	14
1958	18,788	28,186	-9,398	-33.34	9
1959	29,651	18,788	10,863	57.82	15
1960	35,683	29,651	6,032	20.34	18
1961	38,185	35,683	2,502	7.01	19
1962	93,157	38,185	54,972	143.96	46
1963	54,490	93,157	-38,667	-41.51	27

TABLE 8:3 WORK DAYS LOST PER YEAR
NEW ZEALAND, 1920-84

	WORKING DAYS LOST	PR. TOTAL	-----INCREASE------ NO.	%	INDEX 1923= 100
1964	66,834	54,490	12,344	22.65	33
1965	21,814	66,834	-45,020	-67.36	11
1966	99,095	21,814	77,281	354.27	49
1967	139,490	99,095	40,395	40.76	69
1968	130,267	139,490	-9,223	-6.61	65
1969	138,675	130,267	8,408	6.45	69
1970	277,348	138,675	138,673	100.00	137
1971	162,563	277,348	-114,785	-41.39	81
1972	134,505	162,563	-28,058	-17.26	67
1973	271,706	134,505	137,201	102.00	135
1974	183,688	271,706	-88,018	-32.39	91
1975	214,632	183,688	30,944	16.85	106
1976	488,441	214,632	273,809	127.57	242
1977	436,808	488,441	-51,633	-10.57	216
1978	380,605	436,808	-56,203	-12.87	189
1979	381,896	380,605	1,291	0.34	189
1980	373,496	381,896	-8,400	-2.20	185
1981	388,086	373,496	14,590	3.91	192
1982	330,028	388,086	-58,058	-14.96	164
1983	371,774	330,028	41,746	12.65	184
1984	424,900	371,774	53,126	14.29	211

TABLE 8:4 WORK DAYS LOST PER WORKER INVOLVED & PER 1000 WAGE EARNERS
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	WORKERS INVOLVED	WORKING DAYS LOST	--AVERAGE DAYS LOST PER--- -WORKER INVOLVED-- TOTAL	PR. TOTAL	---INCREASE---- NO.	%	INDEX 1923= 100	ALL WAGE & SALARY EARNERS	DAYS LOST PER 1000 WAGE & SAL EARNERS
1920	15,138	54,735	3.62				13		
1921	10,433	119,208	11.43	3.62	7.81	215.64	41		
1922	6,414	93,456	14.57	11.43	3.14	27.52	52		
1923	7,162	201,812	28.18	14.57	13.61	93.39	100		
1924	14,815	89,105	6.01	28.18	-22.16	-78.66	21		
1925	9,905	74,552	7.53	6.01	1.51	25.14	27		
1926	6,264	47,811	7.63	7.53	0.11	1.41	27		
1927	4,476	12,485	2.79	7.63	-4.84	-63.46	10		
1928	9,258	21,997	2.38	2.79	-0.41	-14.82	8		
1929	7,151	25,889	3.62	2.38	1.24	52.37	13		
1930	5,467	31,669	5.79	3.62	2.17	60.01	21		
1931	6,356	48,486	7.63	5.79	1.84	31.69	27		
1932	9,355	108,605	11.61	7.63	3.98	52.19	41		
1933	3,558	65,099	18.30	11.61	6.69	57.60	65		
1934	3,773	10,393	2.75	18.30	-15.54	-84.94	10		
1935	2,323	18,563	7.99	2.75	5.24	190.10	28		
1936	7,354	16,980	2.31	7.99	-5.68	-71.11	8		
1937	11,411	29,916	2.62	2.31	0.31	13.54	9		
1938	11,388	35,456	3.11	2.62	0.49	18.76	11		
1939	15,682	53,801	3.43	3.11	0.32	10.19	12		
1940	10,475	28,097	2.68	3.43	-0.75	-21.82	10		
1941	15,261	26,237	1.72	2.68	-0.96	-35.90	6		
1942	14,345	51,189	3.57	1.72	1.85	107.56	13		
1943	10,915	14,687	1.35	3.57	-2.22	-62.29	5		
1944	29,766	52,602	1.77	1.35	0.42	31.33	6		

TABLE 8:4 WORK DAYS LOST PER WORKER INVOLVED & PER 1000 WAGE EARNERS
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	WORKERS INVOLVED	WORKING DAYS LOST	--AVERAGE DAYS LOST PER--- -WORKER INVOLVED-- TOTAL	PR. TOTAL	---INCREASE---- NO.	%	INDEX 1923= 100	ALL WAGE & SALARY EARNERS	DAYS LOST PER 1000 WAGE & SAL EARNERS
1945	39,418	66,629	1.69	1.77	-0.08	-4.35	6		
1946	15,696	30,393	1.94	1.69	0.25	14.56	7	411,600	73.84
1947	26,970	102,725	3.81	1.94	1.87	96.70	14	545,500	188.31
1948	28,494	93,464	3.28	3.81	-0.53	-13.88	12	556,300	168.01
1949	61,536	218,172	3.55	3.28	0.27	8.09	13	568,100	384.04
1950	91,492	271,475	2.97	3.55	-0.58	-16.31	11	574,900	472.21
1951	36,878	1,157,390	31.38	2.97	28.42	957.71	111	583,200	1984.55
1952	16,297	28,123	1.73	31.38	-29.66	-94.50	6	592,200	47.49
1953	22,175	19,291	0.87	1.73	-0.86	-49.59	3	609,400	31.66
1954	16,153	20,474	1.27	0.87	0.40	45.70	4	623,600	32.83
1955	20,224	52,043	2.57	1.27	1.31	103.02	9	639,600	81.37
1956	13,579	23,870	1.76	2.57	-0.82	-31.69	6	652,900	36.56
1957	15,545	28,186	1.81	1.76	0.06	3.15	6	670,200	42.06
1958	13,709	18,788	1.37	1.81	-0.44	-24.42	5	693,000	27.11
1959	18,762	29,651	1.58	1.37	0.21	15.31	6	699,400	42.39
1960	14,305	35,683	2.49	1.58	0.91	57.84	9	725,900	49.16
1961	16,626	38,185	2.30	2.49	-0.20	-7.93	8	752,700	50.73
1962	39,921	93,157	2.33	2.30	0.04	1.60	8	763,900	121.95
1963	14,911	54,490	3.65	2.33	1.32	56.60	13	788,000	69.15
1964	34,779	66,834	1.92	3.65	-1.73	-47.41	7	814,600	82.05
1965	15,267	21,814	1.43	1.92	-0.49	-25.65	5	846,700	25.76
1966	33,132	99,095	2.99	1.43	1.56	109.33	11	875,000	113.25
1967	28,490	139,490	4.90	2.99	1.91	63.70	17	871,800	160.00
1968	37,458	130,267	3.48	4.90	-1.42	-28.97	12	877,800	148.40
1969	44,041	138,675	3.15	3.48	-0.33	-9.46	11	899,500	154.17

TABLE 8:4 WORK DAYS LOST PER WORKER INVOLVED & PER 1000 WAGE EARNERS
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	WORKERS INVOLVED	WORKING DAYS LOST	--AVERAGE DAYS LOST PER--- -WORKER INVOLVED-- TOTAL	PR. TOTAL	---INCREASE---- NO.	%	INDEX 1923= 100	ALL WAGE & SALARY EARNERS	DAYS LOST PER 1000 WAGE & SAL EARNERS
1970	110,096	277,348	2.52	3.15	-0.63	-20.00	9	927,600	299.00
1971	86,009	162,563	1.89	2.52	-0.63	-24.97	7	942,500	172.48
1972	60,249	134,505	2.23	1.89	0.34	18.12	8	953,800	141.02
1973	115,865	271,706	2.35	2.23	0.11	5.04	8	985,800	275.62
1974	70,904	183,688	2.59	2.35	0.25	10.47	9	1,019,100	180.25
1975	74,820	214,632	2.87	2.59	0.28	10.73	10	1,031,000	208.18
1976	201,085	488,441	2.43	2.87	-0.44	-15.32	9	1,042,100	468.71
1977	159,407	436,808	2.74	2.43	0.31	12.81	10	1,044,900	418.04
1978	157,903	380,605	2.41	2.74	-0.33	-12.04	9	1,040,200	365.90
1979	158,195	381,896	2.41	2.41	0.00	0.15	9	1,020,500	374.22
1980	127,651	373,496	2.93	2.41	0.51	21.20	10	1,021,000	365.81
1981	135,006	388,086	2.87	2.93	-0.05	-1.75	10	1,033,400	375.54
1982	155,969	330,028	2.12	2.87	-0.76	-26.39	8	1,033,600	319.30
1983	140,730	371,774	2.64	2.12	0.53	24.85	9	1,026,400	362.21
1984	160,300	424,900	2.65	2.64	0.01	0.34	9	1,063,100	399.68

TABLE 8:5 ESTIMATED LOSS OF WAGES
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	WORKERS INVOLVED	-ESTIMATED LOSS IN WAGES-- ---THOUSANDS OF DOLLARS--- NOMINAL	C.P.I.	CONSTANT	$ (CON) PER WKR. INVOLVED
1920	15,138	81	151	1,157	76
1921	10,433	181	151	2,586	248
1922	6,414	122	136	1,935	302
1923	7,162	228	135	3,643	509
1924	14,815	125	137	1,968	133
1925	9,905	98	138	1,532	155
1926	6,264	65	139	1,009	161
1927	4,476	24	138	375	84
1928	9,258	45	138	703	76
1929	7,151	54	138	844	118
1930	5,467	75	135	1,198	219
1931	6,356	89	125	1,536	242
1932	9,355	211	115	3,958	423
1933	3,558	119	109	2,355	662
1934	3,773	14	111	272	72
1935	2,323	31	115	581	250
1936	7,354	26	119	471	64
1937	11,411	64	127	1,087	95
1938	11,388	84	131	1,383	121
1939	15,682	121	136	1,919	122
1940	10,475	56	142	851	81
1941	15,261	69	148	1,006	66
1942	14,345	126	152	1,788	125
1943	10,915	40	156	553	51
1944	29,766	148	159	2,008	67
1945	39,418	185	161	2,479	63
1946	15,696	80	162	1,065	68
1947	26,970	375	167	4,844	180
1948	28,494	392	181	4,672	164
1949	61,536	782	184	9,167	149
1950	91,492	1,028	194	11,430	125
1951	36,878	6,223	216	62,144	1,685
1952	16,297	139	232	1,292	79
1953	22,175	97	243	861	39
1954	16,153	133	254	1,129	70
1955	20,224	371	260	3,078	152
1956	13,579	168	269	1,347	99
1957	15,545	166	275	1,302	84
1958	13,709	128	287	962	70
1959	18,762	215	298	1,556	83
1960	14,305	233	300	1,675	117
1961	16,626	299	306	2,108	127
1962	39,921	749	314	5,145	129
1963	14,911	496	320	3,343	224

TABLE 8:5 ESTIMATED LOSS OF WAGES
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	WORKERS INVOLVED	-ESTIMATED LOSS IN WAGES-- ---THOUSANDS OF DOLLARS--- NOMINAL	C.P.I.	CONSTANT	$ (CON) PER WKR. INVOLVED
1964	34,779	513	331	3,343	96
1965	15,267	184	343	1,157	76
1966	33,132	878	352	5,380	162
1967	28,490	869	373	5,025	176
1968	37,458	1,097	389	6,083	162
1969	44,041	1,384	409	7,299	166
1970	110,096	2,425	435	12,025	109
1971	86,009	2,109	481	9,458	110
1972	60,249	1,951	514	8,187	136
1973	115,865	4,289	556	16,639	144
1974	70,904	3,332	618	11,630	164
1975	74,820	4,219	708	12,854	172
1976	201,085	18,840	828	49,080	244
1977	159,407	10,560	947	24,053	151
1978	157,903	10,948	1,060	22,278	141
1979	158,195	12,698	1,206	22,711	144
1980	127,651	18,110	1,412	27,665	217
1981	135,006	20,411	1,629	27,027	200
1982	155,969	24,605	1,893	28,036	180
1983	140,730	26,599	2,032	28,235	201
1984	160,300	33,640	2,157	33,640	210

TABLE 8:6 INDEX WAGES LOST THROUGH STOPPAGES STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	ESTIMATED LOSS IN WAGES- ALL WORKERS INVOLVED	PER WORKER INVOLVED	-INDEX 1923=100- ALL WORKERS	PER WORKER
1920	1,157	76	32	15
1921	2,586	248	71	49
1922	1,935	302	53	59
1923	3,643	509	100	100
1924	1,968	133	54	26
1925	1,532	155	42	30
1926	1,009	161	28	32
1927	375	84	10	16
1928	703	76	19	15
1929	844	118	23	23
1930	1,198	219	33	43
1931	1,536	242	42	47
1932	3,958	423	109	83
1933	2,355	662	65	130
1934	272	72	7	14
1935	581	250	16	49
1936	471	64	13	13
1937	1,087	95	30	19
1938	1,383	121	38	24
1939	1,919	122	53	24
1940	851	81	23	16
1941	1,006	66	28	13
1942	1,788	125	49	24
1943	553	51	15	10
1944	2,008	67	55	13
1945	2,479	63	68	12
1946	1,065	68	29	13
1947	4,844	180	133	35
1948	4,672	164	128	32
1949	9,167	149	252	29
1950	11,430	125	314	25
1951	62,144	1,685	1,706	331
1952	1,292	79	35	16
1953	861	39	24	8
1954	1,129	70	31	14
1955	3,078	152	84	30
1956	1,347	99	37	19
1957	1,302	84	36	16
1958	962	70	26	14
1959	1,556	83	43	16
1960	1,675	117	46	23
1961	2,108	127	58	25
1962	5,145	129	141	25
1963	3,343	224	92	44

TABLE 8:6 INDEX WAGES LOST THROUGH STOPPAGES
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	ESTIMATED LOSS IN WAGES- ALL WORKERS INVOLVED	PER WORKER INVOLVED	-INDEX 1923=100- ALL WORKERS	PER WORKER
1964	3,343	96	92	19
1965	1,157	76	32	15
1966	5,380	162	148	32
1967	5,025	176	138	35
1968	6,083	162	167	32
1969	7,299	166	200	33
1970	12,025	109	330	21
1971	9,458	110	260	22
1972	8,187	136	225	27
1973	16,639	144	457	28
1974	11,630	164	319	32
1975	12,854	172	353	34
1976	49,080	244	1,347	48
1977	24,053	151	660	30
1978	22,278	141	612	28
1979	22,711	144	623	28
1980	27,665	217	759	43
1981	27,027	200	742	39
1982	28,036	180	770	35
1983	28,235	201	775	39
1984	33,640	210	923	41

TABLE 8:7 FRACTION OF WAGE & SALARY EARNERS INVOLVED
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	WORKERS INVOLVED	ALL WAGE & SALARY EARNERS	WAGE & SALARY EARNERS INVOLVED %	WORKING CLASS EST'D FROM CENSUS	PERCENT OF WORKING CLASS INVOLVED %
1920	15,138				
1921	10,433			370,692	2.81
1922	6,414				
1923	7,162				
1924	14,815				
1925	9,905				
1926	6,264			414,673	1.51
1927	4,476				
1928	9,258				
1929	7,151				
1930	5,467				
1931	6,356				
1932	9,355				
1933	3,558				
1934	3,773				
1935	2,323				
1936	7,354			495,099	1.49
1937	11,411				
1938	11,388				
1939	15,682				
1940	10,475				
1941	15,261				
1942	14,345				
1943	10,915				
1944	29,766				

TABLE 8:7 FRACTION OF WAGE & SALARY EARNERS INVOLVED
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	WORKERS INVOLVED	ALL WAGE & SALARY EARNERS	WAGE & SALARY EARNERS INVOLVED %	WORKING CLASS EST'D FROM CENSUS	PERCENT OF WORKING CLASS INVOLVED %
1945	39,418				
1946	15,696	411,600	3.81	471,139	3.33
1947	26,970	545,500	4.94		
1948	28,494	556,300	5.12		
1949	61,536	568,100	10.83		
1950	91,492	574,900	15.91		
1951	36,878	583,200	6.32	587,322	6.28
1952	16,297	592,200	2.75		
1953	22,175	609,400	3.64		
1954	16,153	623,600	2.59		
1955	20,224	639,600	3.16		
1956	13,579	652,900	2.08	661,294	2.05
1957	15,545	670,200	2.32		
1958	13,709	693,000	1.98		
1959	18,762	699,400	2.68		
1960	14,305	725,900	1.97		
1961	16,626	752,700	2.21	757,780	2.19
1962	39,921	763,900	5.23		
1963	14,911	788,000	1.89		
1964	34,779	814,600	4.27		
1965	15,267	846,700	1.80		
1966	33,132	875,000	3.79	879,920	3.77
1967	28,490	871,800	3.27		
1968	37,458	877,800	4.27		
1969	44,041	899,500	4.90		

TABLE 8:7 FRACTION OF WAGE & SALARY EARNERS INVOLVED
STRIKES & CLASS STRUGGLE, NEW ZEALAND, 1923-84

	WORKERS INVOLVED	ALL WAGE & SALARY EARNERS	WAGE & SALARY EARNERS INVOLVED %	WORKING CLASS EST'D FROM CENSUS	PERCENT OF WORKING CLASS INVOLVED %
1970	110,096	927,600	11.87		
1971	86,009	942,500	9.13	974,731	8.82
1972	60,249	953,800	6.32		
1973	115,865	985,800	11.75		
1974	70,904	1,019,100	6.96		
1975	74,820	1,031,000	7.26		
1976	201,085	1,042,100	19.30	1,089,507	18.46
1977	159,407	1,044,900	15.26		
1978	157,903	1,040,200	15.18		
1979	158,195	1,020,500	15.50		
1980	127,651	1,021,000	12.50		
1981	135,006	1,033,400	13.06	1,149,384	11.75
1982	155,969	1,033,600	15.09		
1983	140,730	1,026,400	13.71		
1984	160,300	1,063,100	15.08		

TABLE 8:8 FIRMS AFFECTED BY STOPPAGES
NEW ZEALAND, 1906-77

	TOTAL STOPPAGES	FIRMS AFFECTED	WORKERS INVOLVED	STOPPAGES PER FIRM AFFECTED	FIRMS AFFECTED PER STOPPAGE	-----AVERAGE WORKERS INVOLVED PER------ FIRM AFFECTED	FIRM AFFECTED PER STOPPAGE	STOPPAGE PER FIRM AFFECTED
1906	1	1	88	1.0	1.0	88	88	88
1907	6	7	558	0.9	1.2	80	68	93
1908	2	2	63	1.0	1.0	32	32	32
1909	1	1	0	1.0	1.0	0	0	0
1910	15	15	255	1.0	1.0	17	17	17
1911	22	22	1,375	1.0	1.0	63	63	63
1912	24	29	5,746	0.8	1.2	198	164	239
1913	73	162	13,400	0.5	2.2	83	37	184
1914	20	20	4,089	1.0	1.0	204	204	204
1915	8	8	295	1.0	1.0	37	37	37
1916	15	21	899	0.7	1.4	43	31	60
1917	45	53	2,734	0.8	1.2	52	44	61
1918	40	44	4,056	0.9	1.1	92	84	101
1919	45	59	4,030	0.8	1.3	68	52	90
1920	77	107	15,138	0.7	1.4	141	102	197
1921	77	112	10,433	0.7	1.5	93	64	135
1922	58	67	6,414	0.9	1.2	96	83	111
1923	49	79	7,162	0.6	1.6	91	56	146
1924	34	58	14,815	0.6	1.7	255	150	436
1925	81	93	9,905	0.9	1.1	107	93	122
1926	59	67	6,264	0.9	1.1	93	82	106
1927	38	40	4,476	1.0	1.1	112	106	118
1928	37	56	9,258	0.7	1.5	165	109	250
1929	47	60	7,151	0.8	1.3	119	93	152
1930	38	44	5,467	0.9	1.2	124	107	144

TABLE 8:8 FIRMS AFFECTED BY STOPPAGES
NEW ZEALAND, 1906-77

	TOTAL STOPPAGES	FIRMS AFFECTED	WORKERS INVOLVED	STOPPAGES PER FIRM AFFECTED	FIRMS AFFECTED PER STOPPAGE	AVERAGE WORKERS INVOLVED PER FIRM AFFECTED	AVERAGE WORKERS INVOLVED PER FIRM AFFECTED PER STOPPAGE	AVERAGE WORKERS INVOLVED PER STOPPAGE PER FIRM AFFECTED
1931	23	37	6,356	0.6	1.6	172	107	276
1932	23	67	9,355	0.3	2.9	140	48	407
1933	15	43	3,558	0.3	2.9	83	29	237
1934	24	37	3,773	0.6	1.5	102	66	157
1935	12	65	2,323	0.2	5.4	36	7	194
1936	43	128	7,354	0.3	3.0	57	19	171
1937	52	72	11,411	0.7	1.4	158	114	219
1938	72	103	11,388	0.7	1.4	111	77	158
1939	66	636	15,682	0.1	9.6	25	3	238
1940	56	99	10,475	0.6	1.8	106	60	187
1941	89	97	15,261	0.9	1.1	157	144	171
1942	65	78	14,345	0.8	1.2	184	153	221
1943	69	114	10,915	0.6	1.7	96	58	158
1944	148	269	29,766	0.6	1.8	111	61	201
1945	154	1,255	39,418	0.1	8.1	31	4	256
1946	96	122	15,696	0.8	1.3	129	101	163
1947	134	234	26,970	0.6	1.7	115	66	201
1948	101	885	28,494	0.1	8.8	32	4	282
1949	123	1,315	61,536	0.1	10.7	47	4	500
1950	129	1,189	91,492	0.1	9.2	77	8	709
1951	109	354	36,878	0.3	3.2	104	32	338
1952	50	177	16,297	0.3	3.5	92	26	326
1953	73	880	22,175	0.1	12.1	25	2	304
1954	61	447	16,153	0.1	7.3	36	5	265
1955	65	114	20,224	0.6	1.8	177	101	311

TABLE 8:8 FIRMS AFFECTED BY STOPPAGES
NEW ZEALAND, 1906-77

	TOTAL STOPPAGES	FIRMS AFFECTED	WORKERS INVOLVED	STOPPAGES PER FIRM AFFECTED	FIRMS AFFECTED PER STOPPAGE	-----AVERAGE WORKERS INVOLVED PER------ FIRM AFFECTED	FIRM AFFECTED PER STOPPAGE	STOPPAGE PER FIRM AFFECTED
1956	50	426	13,579	0.1	8.5	32	4	272
1957	51	88	15,545	0.6	1.7	177	102	305
1958	49	83	13,709	0.6	1.7	165	98	280
1959	73	119	18,762	0.6	1.6	158	97	257
1960	60	81	14,305	0.7	1.4	177	131	238
1961	71	89	16,626	0.8	1.3	187	149	234
1962	96	129	39,921	0.7	1.3	309	230	416
1963	60	91	14,911	0.7	1.5	164	108	249
1964	93	230	34,779	0.4	2.5	151	61	374
1965	103	218	15,267	0.5	2.1	70	33	148
1966	145	151	33,132	1.0	1.0	219	211	228
1967	89	107	28,490	0.8	1.2	266	221	320
1968	153	209	37,458	0.7	1.4	179	131	245
1969	169	325	44,041	0.5	1.9	136	70	261
1970	320	693	110,096	0.5	2.2	159	73	344
1971	312	590	86,009	0.5	1.9	146	77	276
1972	266	372	60,249	0.7	1.4	162	116	226
1973	391	595	115,865	0.7	1.5	195	128	296
1974	379	533	70,904	0.7	1.4	133	95	187
1975	427	713	74,820	0.6	1.7	105	63	175
1976	487	944	201,085	0.5	1.9	213	110	413
1977	562	839	159,407	0.7	1.5	190	127	284

TABLE 8:9 DURATION OF STOPPAGES, NEAREST FULL DAY
NEW ZEALAND, 1925-77

	---STOPPAGES---		
		----DURATION----	
	NO.	TOTAL	AVERAGE
1925	81	598	7.38
1926	59	314	5.32
1927	38	83	2.18
1928	37	253	6.84
1929	47	342	7.28
1930	38	392	10.32
1931	23	262	11.39
1932	23	313	13.61
1933	15	205	13.67
1934	24	120	5.00
1935	12	88	7.33
1936	43	221	5.14
1937	52	320	6.15
1938	72	287	3.99
1939	66	416	6.30
1940	56	435	7.77
1941	89	233	2.62
1942	65	143	2.20
1943	69	122	1.77
1944	148	281	1.90
1945	154	279	1.81
1946	96	259	2.70
1947	134	834	6.22
1948	101	608	6.02
1949	123	672	5.46
1950	129	567	4.40
1951	109	3,464	31.78
1952	50	108	2.16
1953	73	145	1.99
1954	61	136	2.23
1955	65	211	3.25
1956	50	390	7.80
1957	51	165	3.24
1958	49	152	3.10
1959	73	229	3.14
1960	60	344	5.73
1961	71	353	4.97
1962	96	498	5.19
1963	60	366	6.10
1964	93	333	3.58
1965	103	287	2.79
1966	145	462	3.19
1967	89	571	6.42
1968	153	859	5.61

TABLE 8:9 DURATION OF STOPPAGES, NEAREST FULL DAY
NEW ZEALAND, 1925-77

	---STOPPAGES---		
		----DURATION----	
	NO.	TOTAL	AVERAGE
1969	169	1,139	6.74
1970	320	1,969	6.15
1971	312	1,986	6.37
1972	266	1,257	4.73
1973	391	1,892	4.84
1974	379	1,530	4.04
1975	427	1,829	4.28
1976	487	1,986	4.08
1977	562	2,174	3.87

TABLE 8:10 "LOCK OUTS"
NEW ZEALAND, 1906-84

	OFFICIALLY DESIGNATED LOCKOUTS	WORKERS LOCKED OUT	--ALL STOPPAGES-- NO.	WORKERS INVOLVED	"LOCKOUTS" PERCENT STOPPAGES	"LOCKED OUT" WORKERS PERCENT WORKERS INVOLVED
1906	1	88	1	88	100.00	100.00
1910	2	6	15	255	13.33	2.35
1913	1	20	73	13,400	1.37	0.15
1918	1	33	40	4,056	2.50	0.81
1925	2		81	9,905	2.47	
1928	2		37	9,258	5.41	
1931	1		23	6,356	4.35	
1940	1		56	10,475	1.79	
1944	1		148	29,766	0.68	
1965	2	572	103	15,267	1.94	3.75
1970	3	549	320	110,096	0.94	0.50
1971	1	60	312	86,009	0.32	0.07
1973	3	354	391	115,865	0.77	0.31
1974	1	120	379	70,904	0.26	0.17
1975	1		427	74,820	0.23	
1979	2		521	158,195	0.38	
1981	2		289	135,006	0.69	
1982	4		329	155,969	1.22	
1983	1		332	140,730	0.30	

Appendix 9: Politics

ELECTIONS & POLITICAL PARTIES

British sovereignty was proclaimed for New Zealand in 1840 and until 1841 New Zealand was a dependency of New South Wales. Colonial government was at first vested in a Governor, appointed by and responsible to the Crown, assisted by an advisory Executive Council and a Legislative Council.

Popular representation was granted in 1852, in the form of a General Assembly comprised of a Legislative Council and a House of Representatives. The General Assembly operated from May, 1854. Only from 1856, however, did the Executive become accountable to Parliament. "The whole tendency of the Imperial authorities has been, for the last thirty years, to give the colony absolute self-government in its domestic matters" (Official Handbook of New Zealand, 1883, Part 1, p4.)

New Zealand became a dominion in 1907. With the passing of the Statute of Westminster (Adoption) Act, 1946, New Zealand became a fully self-governing nation. In 1951 the Legislative Council was abolished and since that time the General Assembly has comprised the Governor and the House of Representatives.

Appendix 9: Politics

The size of parliament and the form of representation have changed over time, primarily as a result of pressure from Maoris, workers, farmers and women. In the early years of colonial government, political power was the privilege of the propertied classes who dominated the Provincial Governments. From 1867 in addition to and independent of the "European" electorates, the nation was divided into four electorates for Maori voters. Registration as a voter was then open to "Every adult man of sane mind and not in gaol, [can], provided he has been one year in the colony and six months in one electoral district. Freehold property, also, of 25 pounds value, held for six months preceding the day of registration, entitles a man to be placed on the electoral roll ... if he be not already registered under the residential qualification. Maoris could also vote at this time on the European roll, if they possessed a 25 pound freehold "individually held under Crown title."" (ibid., p5)

The "County Quota" was introduced in 1881. The country quota redrew electoral boundaries adding a fictional 33.3% to rural populations. The percentage was reduced to 18 in 1887, increased to 28 in 1889 and

abolished by the Electoral Amendment Act of 1945. This Act also provided that the allocation of electorates should be on the basis of "adult" population but this change was annulled by an Amendment in 1950.

The original five-year Parliaments, instituted by the Constitution Act 1852, gave way to three-year Parliaments in 1879. Since 1881 general elections have been held every three years, except during the two World Wars.

Plural Voting was disallowed from 1889. In 1893 the franchise was extended to adult women (i.e. those over 21 years old). From 1919 women could enter parliament as representatives. In 1896 the property qualification was abolished.

In 1908 the Second Ballot Act was passed; whence representatives needed to obtain more than half the valid votes cast in the electorate. A second ballot was held where this did not happen; the two highest polling candidates were voted again within weeks of the first ballot. In 1908 second ballots were held in 23 districts; in 1911, 30 districts. The system was abolished in 1913.

Appendix 9: Politics

From 1927 every registered voter could stand for election to parliament except public servants, who could do so from 1936. The qualifying age for electors was set at 21 in 1893, reduced to 20 in 1969 and reduced to 18 in 1974.

Maori voters gained a secret ballot in 1937. Only from 1948 has it been necessary for a Maori voter to be registered on an electoral roll. For Europeans registration became compulsory from 1924.

The crystallisation of political tendencies into distinct and organised parties occurred unevenly and over a long period of time - between the 1880's and the First World War. The first general election to be contested by an organised party formation was in 1890. A succinct overview of the evolution of political parties in New Zealand is given in the 1966 Encyclopedia of New Zealand. In this appendix only the origins and point of disappearance (where applicable) are noted.

The main turning points in political alignment were 1890, 1913(16), 1935, 1949 and 1984. Each reflected a major alteration in the balance of class forces; an upsurge or defeat of a contending class or

class fraction.

The Ballamy Society, a grouping of sundry utopians, reformers and philanthropists, was active in 1889/90 as were the Workers' Political Committees based on the trades union. In 1887 the Knights of Labour were established in New Zealand but this form of association was very largely extinct by 1898.

The Liberal Party evolved from the organisation of Oppositionist representatives in 1887. Liberal candidates first stood in 1890, attracting support from the organised labour movement. A semi-formal "Liberal-Labour Alliance" operated from the early 1890's through the first decade of the twentieth century, sometimes under the banner of the "Liberal and Labour Federation".

The Liberal Party's successor was the United Party, founded in 1927. In 1928 Liberal forces joined in a Unity Conference and in 1931 a coalition between the United and Reform Parties was achieved. The two parties were merged in 1935.

The Reform Party (New Zealand Political Reform League) had its roots in the Political Reform

Associations (1887), the National Association (1891-99) the Auckland Electoral League (1902) and the Political Reform League founded in 1909. The Reform Party was formally established in 1909.

The National Party was founded in 1936 after the defeat of the United-Reform coalition contesting the 1935 election as the National Political Federation.

The Country Party was formed in 1922. The Democrat Party, formed in 1934, existed briefly as a vehicle for those dissatisfied with the coalition.

The New Zealand Socialist Party grew out of various socialist and quasi-socialist tendencies, including Fabians (Christchurch & Dunedin), the Socialist Church (Christchurch), the Clarion Club and the Socialist League, operating around the turn of the century.

The Party was formally established in 1901 and claimed 3000 members by 1908. The majority of these joined the Social Democratic Party in 1913. The Wellington branch of the Socialist Party refused to enter the SDP and instead joined the Communist Party in 1920-21.

Appendix 9: Politics

The Social Democratic Party was formed by the "Red Federation" (of Labour) a group of revolutionary trades union leaders at a Unity Congress in 1913. It incorporated socialists, members of the United Labour Party and syndicalists from the IWW. The moderates rapidly withdrew and re-established the ULP. The SDP merged into the Labour Party when it was founded in 1916. The Communist Party, formed in 1921, grew out of the Marxian Associations. There was a brief revival of the Socialist Party in the 1930's.

The Independent Labour League was founded by J. T. Paul and others in 1904 but fell apart in 1908, being absorbed by the Liberal Party. The Democratic Labour Party was formed by John A Lee and W E Barnard in April 1940 but ceased to exist in 1947.

Social Credit had existed as a tendencies in the Country Party and the Labour Party since the late 1920's but the NZ Social Credit Association was not formed until 1953. It later became the Social Democratic Political League and in 1984 was renamed the NZ Democratic Party.

Maori parties of a more or less formal type have

existed since the 1880's. Noteworthy are Kotahitangi (early 1890's), Young Maori Party (from 1890's to 1912), Muru Raupatu (1912), Ratana Independent Movement (1920's -), Kauhanganui Independent Group (early 1920's), Independent Maori Group (1960's) and Mana Motuhake (late 1970's -).

Notes On Early Working Class Politics

K. W. Robinson, "A History of the Political Labour Movement in New Zealand 1850-1913". MA Thesis, Canterbury 1937.

First worker elected to parliament - S P Andrews of Christchurch (1879). H A Leveston, an engineer, represented Nelson City 1881-89. The occupation of some labour candidates in 1890 was as follows: W W Tanner: boat operator, Heathcote; D Pinkerton: bootmaker, Dunedin City; W Earnshaw: brassfinisher, Dunedin; J C Buick: working carpenter, Wairau; J W Kelly: taylor, Invercargill; E W Sandford: compositor (Lyttelton Times), 1981 by-election.

First workingmens' political associations formed in Auckland 1979 and in Christchurch 1881.

Appendix 9: Politics

Norman D Stevens, "Labour Candidates for the New Zealand House of Representatives 1890-1916" (5 parts). Political Science: v7, n1 March 1955, pp38-48; v7, n2 September 1955, pp128-137; v8, n2 September 1956, pp134-138; v9 n1 March 1957, pp61-71; v9,n2 September 1957, pp63-70.

This is the most comprehensive research done on the subject, based almost exclusively on newspaper reports for the identification of Labour-supported candidates.

Criterion for labour-supported candidates very liberal/loose: "whether or not the candidate was endorsed by any section of the working class movement" including "candidates who ... announced that they were standing in the labour interest" (Part 1, p.39). In the period covered, "the degree of political activity was much greater than has been generally assumed. (...) Labour was, in fact, extremely active politically during this period, both in sponsoring its own candidates, most of whom were no elected, and in backing candidates of the Liberal Party" (Part 5, pp68-9). "Where labour was supporting other candidates there is no way of telling what effect the labour

support had ... a straight labour candidate ... seldom had the support of all of the labour organisations in the electorate, and was often running against a Liberal candidate, who probably got part of the labour vote. The chief difficulty in evaluating the effectiveness of labour's political activity is that there are no figures available about the number of potential labour votes in the various electorates. Without such figures we cannot accurately say whether or not the labour organisations could deliver the potential vote to the selected candidate. (...) It does appear that the labour organisations could control some potential labour vote, but the degree of control varied greatly from electorate to electorate and from year to year. (...) Still another factor contributing to the weakness and ineffectiveness of the labour movement was the lack of a national political organisation. The Political Labour League had a national platform and constitution, but as the national organisation had no control over the selection of candidates, it was actually little more than a series of local organisations bound together by similar aims and a similar structure." (Part 5, p. 69).

Tabulating Steven's discussion gives the following results:

Appendix 9: Politics

LABOUR SUPPORTED CANDIDATES

Date	Labour Supported Candidates	Succesful Lab. Supp. Candidates	Votes
1890	42	20	49319
1893	38	18	96826
1896	36	19	106245
1899	45	27	155134
1902	48	23	140223
1905	54	27	111578
1908	61	23	115978
2nd Ballot	10	5	30552
1911	53	12	115362
2nd Ballot	17	8	58500
1914	44	18	135828

The first socialist candidate was F R Cooke, Christchurch East in 1905, who polled 91 of 6432 votes cast. In the 1908 election Cooke raised his share of the vote to 506 of 6323 votes cast. In the 1908 election the 4 socialist candidates collected 1873 votes. In 1911 6 socialists stood as candidates in the first ballot scoring 5589 votes and 1 stood in the second ballot scoring 2135 votes. In 1914 the Social Democratic Party stood candidates in 10 electorates. Two seats were won and the total votes cast for socialist candidates was 22129. So, the vote for socialists rose from 91 in 1905 to 22129 in 1914; a 243-fold increase in nine years.

Appendix 9: Politics

Best Introduction to formation of political labour movement is Barry Gustafson, Labour's Path to Political Independence, Auckland University Press/Oxford University Press, 1980. The bibliography and referencing is very extensive.

Data sources for the tables in this appendix are NZOYB, various issues.

There are 8 tables in the set. Table 9:1 lists the General Elections, 1853-1984. 9.2 details the distribution of valid votes cast by party. 9.3 details the votes won by parties that can be loosely described as falling within the liberal tradition, and 9:4 reports votes for the labour tradition. 9:6 deals with parties which fall outside either major tradition. 9:7 details relevant aspects of the European electorate and 9:8 does the same for the Maori electorate.

TABLE 9:1 GENERAL ELECTIONS
NEW ZEALAND, 1853-1984

	----DATES OF GENERAL ELECTIONS-----			
	----1ST ROUND----		----2ND ROUND----	
YEAR	MONTH	DAY	MONTH	DAY
1853	JULY	14	OCTOBER	1
1855	OCTOBER	26	DECEMBER	28
1860/1	DECEMBER	12	MARCH	28
1866	FEBRUARY	12	APRIL	6
1871	JANUARY	14	FEBRUARY	23
1875/6	DECEMBER	20	JANUARY	29
1879	AUGUST	28	SEPTEMBER	15
1881	DECEMBER	9		
1884	JULY	22		
1887	SEPTEMBER	26		
1890	DECEMBER	5		
1893	NOVEMBER	28		
1896	DECEMBER	4		
1899	DECEMBER	6		
1902	NOVEMBER	25		
1905	DECEMBER	6		
1908	NOVEMBER	17	NOVEMBER	24
1911	DECEMBER	7	DECEMBER	14
1914	DECEMBER	10		
1919	DECEMBER	17		
1922	DECEMBER	7		
1925	NOVEMBER	4		
1928	NOVEMBER	14		
1931	DECEMBER	2		
1935	NOVEMBER	27		
1938	OCTOBER	15		
1943	SEPTEMBER	23		
1946	NOVEMBER	27		
1949	NOVEMBER	30		
1951	SEPTEMBER	1		
1954	NOVEMBER	13		
1957	NOVEMBER	30		
1960	NOVEMBER	26		
1963	NOVEMBER	30		
1966	NOVEMBER	26		
1969	NOVEMBER	29		
1972	NOVEMBER	25		
1975	NOVEMBER	29		
1978	NOVEMBER	25		
1981	NOVEMBER	28		
1984	JULY	14		

TABLE 9.2 GENERAL ELECTIONS: VALID VOTES CAST BY PARTY
NEW ZEALAND 1853-1984

TABLE 9.2 GENERAL ELECTIONS: VALID VOTES CAST BY PARTY
NEW ZEALAND 1853-1984

	VOTES CAST	LIBERAL	LIBERAL /UNITED	NATIONAL (LIBERAL)	REFORM	NATIONAL (REFORM & UNITED)	CONSERVATIVE	OPPOSITION	LABOUR & SOCIALIST	LABOUR & SOCIAL DEMOCRAT	LABOUR	DEMOCRAT	DEMOCRATIC SOLDIER LABOUR	COMMUNIST	SOCIAL CREDIT	VALUES	NEW ZEALAND	MISCELLANEOUS	TOTAL VALID VOTES	TOTAL % VOTES CAST
1853																				
1855																				
1860/1																				
1866																				
1871																				
1875/6																				
1879																				
1881																				
1884																				
1887																				
1890		76,548					39,338											20,451	136,337	
1893		175,814					74,482											53,880	304,176	
1896		165,259					134,397											59,748	359,404	
1899	279,330	204,331					141,758											41,540	387,629	138.77
1902	318,859	215,845						85,769	10,501									104,847	416,962	130.77
1905	396,657	209,731						117,118	3,623									60,717	391,189	98.62
1908	428,648	242,261						114,245	17,492									36,508	410,506	95.77
1911	492,912	191,323			164,627				40,759									68,859	465,568	94.45
1914	521,525	222,299			243,122					49,482								1,004	515,907	98.92
1919	550,327		155,708		193,676						131,402							61,954	542,740	98.62
1922	620,650		162,149		245,281						150,448							56,192	614,070	98.94
1925	678,877		135,419	135,419	312,932						184,616							39,004	807,390	118.93
1928	743,691		219,648		256,014						197,759							61,970	735,391	98.88
1931	698,027			304,750							242,301							146,021	693,072	99.29
1935	834,682			258,270							392,321	65,217						111,987	827,795	99.17
1938	924,057			368,809							513,397							35,478	917,684	99.31
1943	921,327			390,343							439,207		40,423					41,397	911,370	98.92
1946	1,055,204			507,139							536,994			1,181				1,891	1,047,205	99.24
1949	1,079,905					556,805					506,100			3,499				6,777	1,073,181	99.38
1951	1,073,423					577,630					490,143			528				1,490	1,069,791	99.66
1954	1,105,609					484,082					484,082			1,134	122,068			3,979	1,095,345	99.07
1957	1,163,061					511,699					599,096			706	83,498			2,366	1,197,365	102.95
1960	1,176,963					557,046					508,179			2,423	100,905			1,950	1,170,503	99.45
1963	1,205,322					563,875					524,066			3,167	95,176			11,761	1,198,045	99.40
1966	1,212,127					525,945					499,392			1,060	174,515			4,183	1,205,095	99.42
1969	1,351,813					605,960					592,055			368	121,576			20,209	1,340,168	99.14
1972	1,411,301					581,422					677,475				93,231	27,467		21,364	1,400,959	99.27
1975	1,611,104					763,136					634,453				119,123	83,211		3,755	1,603,678	99.54
1978	1,724,666					683,857					691,756				274,876	41,226		22,131	1,713,846	99.37
1981	1,801,303					698,508					702,630				372,056	3,460		24,649	1,801,303	100.00
1984	1,953,226					692,494					829,154				147,162		236,385		1,929,201	98.77

TABLE 9:3 VOTE FOR PARTIES IN THE LIBERAL TRADITION, NEW ZEALAND 1890-1984

	TOTAL	-----LIBERAL-----		-LIBERAL UNITED--		NATIONAL LIBERAL-		-----REFORM------		----NATIONAL-----		TRAD'N
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	TOTAL
1890	136,337	76,548	56.15									56.15
1893	304,176	175,814	57.80									57.80
1896	359,404	165,259	45.98									45.98
1899	387,629	204,331	52.71									52.71
1902	416,962	215,845	51.77									51.77
1905	391,189	209,731	53.61									53.61
1908	410,506	242,261	59.02									59.02
1911	465,568	191,323	41.09					164,627	35.36			76.45
1914	515,907	222,299	43.09					243,122	47.13			90.21
1919	542,740			155,708	28.69			193,676	35.68			64.37
1922	614,070			162,149	26.41			245,281	39.94			66.35
1925	807,390					135,419	16.77	312,932	38.76			55.53
1928	735,391			219,648	29.87			256,014	34.81			64.68
1931	693,072					304,750	43.97					43.97
1935	827,795					258,270	31.20					31.20
1938	917,684					368,809	40.19					40.19
1943	911,370					390,343	42.83					42.83
1946	1,047,205					507,139	48.43					48.43
1949	1,073,181									556,805	51.88	51.88
1951	1,069,791									577,630	53.99	53.99
1954	1,095,345									484,082	44.19	44.19
1957	1,197,365									511,699	42.74	42.74
1960	1,170,503									557,046	47.59	47.59
1963	1,198,045									563,875	47.07	47.07
1966	1,205,095									525,945	43.64	43.64
1969	1,340,168									605,960	45.22	45.22
1972	1,400,959									581,422	41.50	41.50
1975	1,603,678									763,136	47.59	47.59
1978	1,713,846									683,857	39.90	39.90
1981	1,801,303									698,508	38.78	38.78
1984	1,929,201									692,494	35.90	35.90

TABLE 9:4 VOTES WON BY PARTIES IN THE LABOUR TRADITION, N.Z. 1890-1984

	TOTAL	-LABOUR & SOCIALIST--		LAB. & SOC. DEMOCRAT-		--------LABOUR---------		-DEM. SOLDIER LABOUR-		TRAD'N
		NO.	%	NO.	%	NO.	%	NO.	%	TOTAL
1890	136,337									
1893	304,176									
1896	359,404									
1899	387,629									
1902	416,962	10,501	2.52							2.52
1905	391,189	3,623	0.93							0.93
1908	410,506	17,492	4.26							4.26
1911	465,568	40,759	8.75							8.75
1914	515,907			49,482	9.59					9.59
1919	542,740					131,402	24.21			24.21
1922	614,070					150,448	24.50			24.50
1925	807,390					184,616	22.87			22.87
1928	735,391					197,759	26.89			26.89
1931	693,072					242,301	34.96			34.96
1935	827,795					392,321	47.39			47.39
1938	917,684					513,397	55.94			55.94
1943	911,370					439,207	48.19	40,423	4.44	52.63
1946	1,047,205					536,994	51.28			51.28
1949	1,073,181					506,100	47.16			47.16
1951	1,069,791					490,143	45.82			45.82
1954	1,095,345					484,082	44.19			44.19
1957	1,197,365					599,096	50.03			50.03
1960	1,170,503					508,179	43.42			43.42
1963	1,198,045					524,066	43.74			43.74
1966	1,205,095					499,392	41.44			41.44
1969	1,340,168					592,055	44.18			44.18
1972	1,400,959					677,475	48.36			48.36
1975	1,603,678					634,453	39.56			39.56
1978	1,713,846					691,756	40.36			40.36
1981	1,801,303					702,630	39.01			39.01
1984	1,929,201					829,154	42.98			42.98

TABLE 9:5
VOTES WON BY MISCELLANEOUS PARTIES

	TOTAL	-CONSERVATIVE--		--OPPOSITION---		--DEMOCRAT---		-COMMUNIST--		-SOCIAL CREDIT-		---VALUES-----		--NEW ZEALAND--	
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
1890	136,337	39,338	28.85												
1893	304,176	74,482	24.49												
1896	359,404	134,397	37.39												
1899	387,629	141,758	36.57												
1902	416,962			85,769	20.57										
1905	391,189			117,118	29.94										
1908	410,506			114,245	27.83										
1911	465,568														
1914	515,907														
1919	542,740														
1922	614,070														
1925	807,390														
1928	735,391														
1931	693,072														
1935	827,795					65,217	7.88								
1938	917,684														
1943	911,370														
1946	1,047,205							1,181	0.11						
1949	1,073,181							3,499	0.33						
1951	1,069,791							528	0.05						
1954	1,095,345							1,134	0.10	122,068	11.14				
1957	1,197,365							706	0.06	83,498	6.97				
1960	1,170,503							2,423	0.21	100,905	8.62				
1963	1,198,045							3,167	0.26	95,176	7.94				
1966	1,205,095							1,060	0.09	174,515	14.48				
1969	1,340,168							368	0.03	121,576	9.07				
1972	1,400,959									93,231	6.65	27,467	1.96		
1975	1,603,678									119,123	7.43	83,211	5.19		
1978	1,713,846									274,876	16.04	41,226	2.41		
1981	1,801,303									372,056	20.65	3,460	0.19		
1984	1,929,201									147,162	7.63			236,385	12.25

TABLE 9:6 VOTES WON BY OTHER PARTIES
NEW ZEALAND, 1890-1984

	TOTAL	-CONSERVATIVE--		--OPPOSITION---		--DEMOCRAT---		-COMMUNIST--		-SOCIAL CREDIT-		---VALUES-----		-MISCELLANEOUS-	
		NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
1890	136,337	39,338	28.85											20,451	15.00
1893	304,176	74,482	24.49											53,880	17.71
1896	359,404	134,397	37.39											59,748	16.62
1899	387,629	141,758	36.57											41,540	10.72
1902	416,962			85,769	20.57									104,847	25.15
1905	391,189			117,118	29.94									60,717	15.52
1908	410,506			114,245	27.83									36,508	8.89
1911	465,568													68,859	14.79
1914	515,907													1,004	0.19
1919	542,740													61,954	11.42
1922	614,070													56,192	9.15
1925	807,390													39,004	4.83
1928	735,391													61,970	8.43
1931	693,072													146,021	21.07
1935	827,795					65,217	7.88							111,987	13.53
1938	917,684													35,478	3.87
1943	911,370							1,181	0.13					41,397	4.54
1946	1,047,205							3,499	0.33					1,891	0.18
1949	1,073,181							528	0.05					6,777	0.63
1951	1,069,791							1,134	0.11					1,490	0.14
1954	1,095,345							706	0.06	122,068	11.14			3,979	0.36
1957	1,197,365							2,423	0.20	83,498	6.97			2,366	0.20
1960	1,170,503							3,167	0.27	100,905	8.62			1,950	0.17
1963	1,198,045							1,060	0.09	95,176	7.94			11,761	0.98
1966	1,205,095							368	0.03	174,515	14.48			4,183	0.35
1969	1,340,168									121,576	9.07			20,209	1.51
1972	1,400,959									93,231	6.65	27,467	1.96	21,364	1.52
1975	1,603,678									119,123	7.43	83,211	5.19	3,755	0.23
1978	1,713,846									274,876	16.04	41,226	2.41	22,131	1.29
1981	1,801,303									372,056	20.65	3,460	0.19	24,649	1.37
1984	1,929,201									147,162	7.63				

TABLE 9:7 GENERAL ELECTIONS FOR EUROPEAN REPRESENTATIVES
NEW ZEALAND, 1853-1984

	TOTAL EUROPEAN POPULATION	REGISTERED VOTERS		VOTES CAST		MEMBERS RETURNED			
		NO.	% POP.	NO.	% VOTERS	NO.	PER PERSON	PER VOTER	AVG. VOTES
1853	30,000	5,934	19.78			37	811	160	
1855	37,192	10,324	27.76			37	1,005	279	
1860-1	79,711	13,466	16.89			53	1,504	254	
1866	190,607	33,338	17.49			72	2,647	463	
1871	248,400	47,275	19.03			74	3,357	639	
1875-6	375,856	61,755	16.43			84	4,474	735	
1879	463,729	82,271	17.74	43,776	53.21	84	5,521	979	521
1881	500,910	120,972	24.15	69,985	57.85	91	5,505	1,329	769
1884	564,304	137,686	24.40	74,672	54.23	91	6,201	1,513	821
1887	603,361	175,410	29.07	111,911	63.80	91	6,630	1,928	1,230
1890	625,508	183,171	29.28	136,337	74.43	70	8,936	2,617	1,948
1893	672,265	302,997	45.07	220,082	72.64	70	9,604	4,329	3,144
1896	714,162	339,230	47.50	258,254	76.13	70	10,202	4,846	3,689
1899	756,505	373,744	49.40	279,330	74.74	70	10,807	5,339	3,990
1902	807,929	415,789	51.46	318,859	76.69	76	10,631	5,471	4,196
1905	882,462	476,473	53.99	396,657	83.25	76	11,611	6,269	5,219
1908	960,642	537,003	55.90	428,648	79.82	76	12,640	7,066	5,640
1911	1,025,406	590,042	57.54	486,100	82.38	76	13,492	7,764	6,396
1914	1,095,994	616,043	56.21	521,525	84.66	76	14,421	8,106	6,862
1919	1,142,081	683,420	59.84	550,327	80.53	76	15,027	8,992	7,241
1922	1,218,913	700,111	57.44	620,650	88.65	76	16,038	9,212	8,166
1925	1,218,913	754,113	61.87	678,877	90.02	76	16,038	9,923	8,933
1928	1,344,469	844,633	62.82	743,691	88.05	76	17,690	11,114	9,785
1931	1,344,469	838,344	62.36	689,027	82.19	76	17,690	11,031	9,066
1935	1,491,484	919,798	61.67	834,682	90.75	76	19,625	12,103	10,983

TABLE 9:7 GENERAL ELECTIONS FOR EUROPEAN REPRESENTATIVES
NEW ZEALAND, 1853-1984

	TOTAL EUROPEAN POPULATION	REGISTERED VOTERS		VOTES CAST		MEMBERS RETURNED			
		NO.	% POP.	NO.	% VOTERS	NO.	PER PERSON	PER VOTER	AVG. VOTES
1938	1,536,264	995,173	64.78	924,057	92.85	76	20,214	13,094	12,159
1943	1,537,637	1,000,197	65.05	921,327	92.11	76	20,232	13,160	12,123
1946	1,603,554	1,081,898	67.47	1,019,086	94.19	76	21,099	14,236	13,409
1949	1,798,086	1,113,852	61.95	1,041,794	93.53	76	23,659	14,656	13,708
1951	1,823,796	1,166,375	63.95	1,036,137	88.83	76	23,997	15,347	13,633
1954	1,973,042	1,209,670	61.31	1,066,810	88.19	76	25,961	15,917	14,037
1957	2,099,199	1,202,017	57.26	1,125,522	93.64	76	27,621	15,816	14,810
1960	2,212,051	1,255,488	56.76	1,139,090	90.73	76	29,106	16,520	14,988
1963	2,389,904	1,283,174	53.69	1,163,417	90.67	76	31,446	16,884	15,308
1966	2,475,760	1,347,123	54.41	1,173,819	87.14	76	32,576	17,725	15,445
1969	2,583,155	1,542,328	59.71	1,307,090	84.75	76	33,989	20,294	17,199
1972									
1975									
1978									
1981									
1984									

TABLE 9:8 GENERAL ELECTIONS FOR MAORI DISTRICTS
NEW ZEALAND, 1884-1984

	TOTAL MAORI POPULATION	VOTES CAST	--MEMBERS RETURNED-- NO.	--PER-- PERSON	AVG. VOTES
1853					
1855					
1860-1					
1866					
1871					
1875-6					
1879					
1881					
1884	41,828	5,635	4	10,457	1,409
1887	41,969	8,822	4	10,492	2,206
1890	41,652	13,008	4	10,413	3,252
1893	41,993	11,269	4	10,498	2,817
1896	39,854	13,008	4	9,964	3,252
1899	39,854	13,628	4	9,964	3,407
1902	43,143	14,271	4	10,786	3,568
1905	47,731	16,045	4	11,933	4,011
1908	47,731	16,476	4	11,933	4,119
1911	49,844	11,768	4	12,461	2,942
1914	49,844	18,621	4	12,461	4,655
1919	49,776	9,346	4	12,444	2,337
1922	52,751	20,658	4	13,188	5,165
1925	62,781	15,314	4	15,695	3,829
1928	65,693	20,940	4	16,423	5,235
1931	69,466	21,439	4	17,367	5,360
1935	82,326	24,842	4	20,582	6,211
1938	88,450	29,379	4	22,113	7,345
1943	96,457	31,445	4	24,114	7,861
1946	98,744	36,891	4	24,686	9,223
1949	116,034	38,749	4	29,009	9,687
1951	115,676		4	28,919	
1954	129,538	38,799	4	32,385	9,700
1957	144,614	37,539	4	36,154	9,385
1960	159,709	37,873	4	39,927	9,468
1963	184,684	41,905	4	46,171	10,476
1966	201,159	38,308	4	50,290	9,577
1969	225,435	44,723	4	56,359	11,181
1972		41,949	4		10,487
1975		33,767	4		8,442
1978			4		
1981		45,851	4		11,463
1984		60,320	4		15,080

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CONTENTS

Notes to the Introduction.

1. Leon Trotsky, IN DEFENCE OF MARXISM (New York: Pathfinder, 1973), p182.

2. The most spectacular example in the South Pacific is undoubtedly that of the University of Sydney. In 1971, a dispute officially termed the "marxist-leninist dispute" began which culminated in a split within the Department of Philosophy. Suchting and Devitt proposed to teach two courses - "marxist leninism I" and "marxist leninism II", to study the ideas of Marx, Lenin, Stalin, Mao, Ho and Guevara. The Head of Department, David Armstrong, vetoed the proposal. In 1972, while Armstrong was on leave, a motion was passed at a departmental meeting that "all philosophy students, including first-year students, should have the right to attend meetings, speak, vote and move motions, as equals with the academic staff". In June 1973, six of the 14 permanent staff struck over the Department's refusal to employ two graduate students to teach feminism. The strike lasted almost a month, and led to a vice-chancellors' inquiry. In October 1973, the Department of Philosophy became the School of Philosophy incorporating the Department of Traditional and Modern Philosophy (six staff members) and the Department of General Philosophy (eight members). In 1976, three staff members from General Philosophy (including Devitt) transferred to the Department of Traditional and Modern Philosophy, claiming that General Philosophy was being run by a marxist caucus. According to Grave, after the three left the hold of marxism on the students waned; tensions appeared between the marxists and the feminists and in 1979, a new faction, the 'Paris fashion group', was formed. But, as Armstrong has put it, "in more recent years, with the quietening of the political atmosphere, the other Department had sobered up considerably and has moved nearer to traditional academic ways of going on". The return to the "traditional way" meant the removal of the democratic rights conferred on students in 1972. See the article by Peter Westmore in Quadrant, 1973; Paper Tigers (Department of General Philosophy, University of Sydney 1978); S.A. Grave, A HISTORY OF PHILOSOPHY IN AUSTRALIA (St Lucia: University of Queensland Press, 1984); Radu J. Bogdan (ed.), PROFILES (v4): D.M. ARMSTRONG (Dordrecht: Reidel, 1984).

3. Cf. the intellectual itinerary of such British academics as Barry Hindess and Paul Q. Hirst; and at Canterbury University, academics like Kevin Clements (a sociologist), Rob Steven (a political scientist), Derek Browne (a philosopher), Hugh Lauder (an educationist) etc.

4. See among others Bertram Silverman & Murray Yanowitch (ed. & introd.), THE WORKER IN 'POST-INDUSTRIAL' CAPITALISM; LIBERAL AND RADICAL RESPONSES (New York: Free Press, 1974) and Andre Gorz, FAREWELL TO THE WORKING CLASS; AN ESSAY ON POST-INDUSTRIAL SOCIALISM (London: Pluto, 1982). For arguments in defence of the revolutionary potential of the working class and additional references, see Ernest Mandel, "The role of the proletariat", in International, v8 n1-2, pp14-19; Ernest Mandel & George Novack, THE REVOLUTIONARY POTENTIAL OF THE WORKING CLASS (New York: Pathfinder, 2nd ed. 1974); Ernest Mandel, "Marx, the current crisis and the future of Labour", in Ralph Milliband et al. (eds.), Socialist Register 1985-86 (London: Merlin Press, 1986).

5. According to a modern-day Marx-interpreter, "...logically, materialism could just as easily have been used to claim that people's behaviour was a product of their genes. While the environmental interpretation of materialism provided a more humane view of the poor, it also provided a temptation towards totalitarian control of the social environment including ruthless and brutal efforts to 're-educate' those who fail to conform to the preconceived mould" - Thomas Sowell, MARXISM (London: Unwin Paperbacks, 1986), p206. The classical statement in sociology on the impossibility of popular democracy is given by Max Weber in Talcott Parsons (ed.) MAX WEBER; THE THEORY OF SOCIAL AND ECONOMIC ORGANISATION (New York: Free Press, 1964). Parsons comments: "[Weber] raises, on the most abstract economic level, the theoretical possibility of fully rational allocation of the resources of a complex community by centralised planning, and comes to the conclusion that this is intrinsically impossible for two reasons. On the one hand, it could not be based on money calculations... a system of 'assigned' prices... would have to be too highly arbitrary to base rational calculation upon. On the other hand, without an extensive system of money prices, calculation would have to be 'in kind' and there is no possibility of rational results in a complex economy because it involves reducing qualitatively heterogenous elements to a common denominator, which could only be done by making arbitrary assumptions" (p37). Weber's position is outlined and criticised in Paul Q. Hirst, SOCIAL EVOLUTION AND SOCIOLOGICAL CATEGORIES (London: George Allen & Unwin, 1976), chapter seven. An example of a rejection by self-styled marxists of the base-superstructure distinction is that of Philip Corrigan, Harvie Ramsay and Derek Sayer, SOCIALIST CONSTRUCTION IN MARXIST THEORY; BOLSHEVISM AND ITS CRITIQUE (London: Macmillan, 1978), chapter two. The following remarks about the distinction by a sceptical sociologist may be regarded as typical: "It is my contention that the model of base and superstructure which most Marxists, including Marx, took as the key image through which to express the essence of their theoretical system, is in fact quite incompatible with

the idea of a dialectical science of society, since it implies not only isolating the economy in an unacceptable way, but it also assumes that the latter is more decisive than anything else. It therefore leads, inexorably, to one of two temptations: the more normal temptation of materialist 'reductionism'; the belief that the so-called base can be separated from the so-called superstructure (which it can't); that the base is 'material' (which it isn't); and that it determines the rest (which it doesn't)" - Peter Worsley, MARX AND MARXISM (London: Tavistock, 1982).

6. Professor Anthony Giddens declares "...if we recognise that certain fundamental forms of exploitation do not originate with capitalism, or even with class divisions more generally, we are freed from trying conceptually to squeeze them within standard Marxist analyses. There are three main axes of exploitation of this sort, in my opinion. There are exploitative relations between states, particularly in respect of control of the means of violence; exploitative relations between ethnic groups; and exploitative relations between the sexes" - A CONTEMPORARY CRITIQUE OF HISTORICAL MATERIALISM, v1 (Berkeley: University of California Press, 1981), p25. With respect to population, Sauvy remarks that "Dogma is dwindling away and empirical attitudes are becoming prevalent, but we have still to see a Marxist doctrine of population: it will require careful demographic studies and some detachment from the old situations that gave rise to the initial dogma. The origins need not to be denied, but it should be quite clearly a second-generation theory" -GENERAL THEORY OF POPULATION (London: Methuen, 1969), p529. As regards the ecological and energy crisis, see e.g. Garrett Hardin, "What Marx missed" in Garrett Hardin and John Baden (eds.), MANAGING THE COMMONS (San Fransisco: W.H. Freeman & Co., 1977), William R. Catton and Riley E. Dunlap, "Environmental Sociology: A New Paradigm" The American Sociologist 1978, v13 (February) p41-49 and the later work of Rudolf Bahro; see e.g. Rudolf Bahro, FROM RED TO GREEN (London: Verso, 1985). On the question of nuclear war, see e.g. E.P. Thompson et al., EXTERMINISM AND COLD WAR (London: Verso, 1982). On patriarchy as the 'most fundamental' source of oppression, see Dr Rob Steven, "Women and revolution; turning Marx upside down" (unpublished paper presented to the Third Marxian Political Economy Conference, Auckland 1980).

7. Serious bourgeois criticism of Marx's economic theory never advanced much beyond Eugen von Bohm-Bawerk's critique in KARL MARX AND THE CLOSE OF HIS SYSTEM (London: Merlin Press, 1975). Rudolf Hilferding's reply, "Bohm-Bawerk's Criticism of Marx", is also included in this volume. For a marxist critique of Bohm-Bawerk's own marginalist theories, see Nikolai I. Bukharin, THE ECONOMIC THEORY OF THE LEISURE CLASS (New York: Monthly Review Press, 1972). The only substantive contemporary

critique that can claim some novelty is the one of the neo-ricardians, many of whom however claim to be marxists (see e.g. Ian Steedman, MARX AFTER SRAFFA (London: NLB, 1977), to which Ernest Mandel and Alan Freeman (eds.), RICARDO, MARX SRAFFA (London: Verso, 1985) is a more than adequate reply. In the same way, the reformist critique of revolutionary politics in substance has never gone beyond Eduard Bernstein's classic EVOLUTIONARY SOCIALISM and Karl Kautsky's critique of the October revolution.

8. See e.g. the 'confessions' reported in Charles Wheeler, "Radical switch from radical chic", in Insight Magazine (USA), 18 August 1986 (reprinted in the New Zealand Moonie newspaper University Times, September 1986). New Left veteran David J. Horowitz is quoted as follows: "I would like to say this to my former comrades and successors on the left: you are self-righteous and blind in your belief that you are part of a movement to advance human progress and liberate mankind. You are in fact in league with the darkest and most reactionary forces of the modern world, whose legacies - as the record attests - are atrocities and oppressions on a scale unknown in the human past". "[Marxism] is a religion but it is a religion in which the promise is not in the next world but in this world. And then, when you look and see what radicals do and what the actual record is, you see that in the name of some future paradise, they create the present hell. ... You believe that man is born free but is everywhere in chains because of society. So all you have to do is break the chains and the good human being emerges. Well, you can only see so many times what happens when the chains of capitalism are broken: you get these horrendous police states and these vast slaughters of human beings". The same article quotes fellow renegade Peter Collier as follows: "The early new-left was a kind of alienated generation that was filled with moral imperatives it didn't understand. It translated the civil rights movement, which was the real moral imperative, to Vietnam and from Vietnam to a kind of fill-in-the-blank political mentality... We radicals would sit there and cheer on the nights that Walter Cronkite would announce the body count [!], because every American dead brought us that much closer to the apocalypse that we desperately wanted. I feel that [the Vietnam Veterans Memorial] is an indictment of the left... for its brutality and dehumanising involvement with that war".

9. Though not an academic, Geoff McDonald offers the clearest example of an ex-marxist who, having personally gone through a 'marxist experience', considers himself a 'privileged' critic of the movement. In his recent book, SHADOWS OVER NEW ZEALAND (Privately published, 1985), he sets out to reveal the 'Communist plot' for the take-over of New Zealand - via the Maori nationalist movement.

10. "Having broken with a party bureaucracy in the name of communism, the heretic goes on to break with communism itself. He claims to have made the discovery that the root of the evil goes far deeper than he first imagined, even though his digging for that 'root' may have been very lazy and very shallow. He no longer defends socialism from unscrupulous abuse; he now defends mankind from the fallacy of socialism. He no longer throws out the dirty water of the Russian revolution to protect the baby; he discovers that the baby is a monster which must be strangled. The heretic becomes a renegade" - Isaac Deutscher, HERETICS AND RENEGADES AND OTHER ESSAYS (London: Hamish Hamilton, 1955), pp14-15.

11. Cf. Engels: "The separation of society into an exploiting and an exploited class, a ruling and an oppressed class, was the necessary consequence of the deficient and restricted development of production in former times. So long as the total social labour only yields a produce which but slightly exceeds that barely necessary for the existence of all; so long, therefore, as labour engages all or almost all the time of the great majority of the members of society -so long, of necessity, the society is divided into classes... It is, therefore, the law of division of labour that lies at the basis of the division into classes. But this does not prevent the division into classes from being carried out by means of violence and robbery, trickery and fraud. It does not prevent the ruling class, once having the upper hand, from consolidating its power..." -Frederick Engels, ANTI-DUEHRING (Moscow: Progress, 1947), p341. It was this principle that for Trotsky fundamentally explained the degeneration of the Russian revolution : "The basis of bureaucratic rule is the poverty of society in objects of consumption, with the resulting struggle of each against all. When there is enough goods in a store, the purchasers can come whenever they want to. When there is little goods, the purchasers are compelled to stand in line. When the lines are very long, it is necessary to appoint a policeman to keep order. Such is the starting-point of the power of the Soviet bureaucracy. It 'knows' who is to get something and who has to wait... The present state of production is still far from guaranteeing all necessities to everybody. But it is already adequate to give significant privileges to a minority, and convert inequality into a whip for spurring on the majority... Nobody who has wealth to distribute ever omits himself" -Leon Trotsky, THE REVOLUTION BETRAYED (New York: Pathfinder, 1972), pp112-113). Deutscher notes that "The intellectual structure of classical marxism was entirely based on the assumption of a socialist revolution within a mature capitalist bourgeois society. The vulgar marxism of our decade, by which I mean the Marxism that comes from the post-capitalist third of the world, is all based on the fact of revolutions occurring within underdeveloped societies. Now, how does this affect the

structure of Marxist thinking ?... On the basis of material scarcity there is no freedom... [yet] coercion and constraint is presented to you as proletarian culture, as socialist culture... Censors confiscate poems because they are afraid that these poems may become political manifestoes" - Isaac Deutscher, MARXISM IN OUR TIME (London: Cape, 1972) pp20, 21. Ernest Mandel reiterates this theme in INTRODUCTION TO MARXISM (London: Pluto, 2nd edn. 1979), chapter two, and in his essay "Commodity production and bureaucracy", in a forthcoming volume of essays in honour of Harry Magdoff, entitled RETHINKING MARXISM (New York: Autonomedia, 1986).

12. The re-emergence of self-organised women's and Maori movements in the 1970s, noted by many conventional scholars bears this out. "Together Maori cultural resurgence and the women's liberation movement were the enduring elements of a 'new wave of protest' that brought a new hue to the social fabric from the late 1960's... pressure for change came from... the National Organisation for Women and Auckland Women's lLiberation, formed in the early 1970s. From the later group came Broadsheet (from 1972 and the main impetus for the first United Women's Convention in 1973... Rape Crisis, Women's Refuge, Women's Resource Centres, Working Women's Alliance, Sisters Overseas Service (abortion referral), Sisters for Homophile Equality, study and 'consciousness raising' groups. Nga Tamatoa, founded in Auckland in 1970 ... Together with other groups (notably Te Reo Maori and Te Roopu o te Matakite) succeeded in focusing public attention on Maori issues and shifting the climate of influential opinions" - Graeme Dunstall, 'The Social Pattern', in W. H. Oliver and B. R. Williams (eds.), THE OXFORD HISTORY OF NEW ZEALAND (Wellington: Oxford University Press, 1981), pp426-29. Dunstall ignores changing economic conditions as a factor in these organised protests, treating them instead as a legacy of non-conformity ("the growth of political pressure groups from the late 1960s... the changing social climate especially amongst youth, emphasised greater freedom - 'doing your own thing'").

13. The logic of this self-destructive process is traced by Marlene Dixon in her essays "The Rise and Demise of Women's liberation" and "The Sisterhood Rip-off", in Marlene Dixon, THE FUTURE OF WOMEN (San Fransisco: Synthesis Publications, 1983).

14. To get an idea of the diversity of social movements in New Zealand, see Tim Shadbolt, BULLSHIT AND JELLYBEANS (Wellington: Alister Taylor, 1971) for the youth radicalisation); Roger Wilson, FROM MANAPOURI TO ARAMOANA; THE BATTLE FOR NEW ZEALAND'S ENVIRONMENT (Waiwera: Earthworks Press, 1982) for the environmentalist groups; Christine Dann, UP FROM UNDER. WOMEN AND LIBERATION IN NEW ZEALAND 1970-1985

(Wellington: Allen & Unwin/Port Nicholson Press, 1985) for the women's movement; Donna Awatere, MAORI SOVEREIGNTY (Auckland: Broadsheet, 1985) for various Maori movements.

15. See Marlene Dixon, op. cit.

16. From 1972, the stronger unions in New Zealand began to agitate for redundancy compensation. In 1974 and 1975, a significant number of total stoppages resulted from strikes demanding redundancy payments for laid-off workers. In 1975, the FOL co-ordinated a campaign in support of this demand. But according to Employer, the bulletin of the New Zealand Employers' Federation (n27, 1975), as a result of industrial action "aimed at forcing employers" to incorporate redundancy clauses into national awards, the Government's Severance and Re-employment Bill proposed to establish a central fund from which payments would be made to workers made redundant.

17. In the New Zealand context, a social movement formed to stop the Springbok rugby tour in the early 1980s. It drew in Maori gangs, lesbian separatists, unemployed people and even youth who - ostensibly - identified with fascism. The phenomena is apparently widespread. Manuel Castells - in a veiled criticism of the PCF's failure to recognise the potential of social protest - points to the pluriclassiste nature of "new forms of popular protest and organisation arising from the contradictions of daily experience in capitalist cities" in France, Spain and Latin America. Manuel Castells, THE URBAN QUESTION (London: Edward Arnold, 1977).

18. In good part, this resulted from the failure of the trade unions to take up the issues raised by women, see for example the article "FOL rejects Working Women's Charter", in Broadsheet n71, July/August 1979.

19. This can be best seen in Labour Party membership figures: by 1975, after three years of Labour government, branch membership had declined to about 14,000; members affiliated to the party through their unions similarly declined from 75% of all unionists in 1941 to 40% of unionists under the umbrella of the FOL in 1982. Sociologist and party activist Peter Davis describes the relation between the Labour Party and the working class as follows: "As a rule, the affiliated unions control 30-40% of the votes at the Labour Party Conference ... The decline in Trade Union participation means that the party receives more financial aid from companies and businesses than it receives from the trade unions... [Labour Party] links with trade unionism, and the trade union card vote in Conference, came under attack for the first time during the 1960s from the new breed of middle-class activists. At that time impulse for change was contained, but in the wake of Labour's defeat in 1981 the issue re-emerged and was backed,

for the first time, by a 'liberal' or 'social democratic' centrist group in the parliamentary caucus and the shadow Cabinet, including the party leader, Bill Rowling, who in March 1982 called for a reappraisal of the traditional form of trade union affiliation to the Labour Party. This was interpreted, perhaps wrongly, as a proposal to cast off all formal ties to the Trade Union movement" - Peter Davis (ed.), SOCIAL DEMOCRACY IN THE PACIFIC (Auckland: Peter Davis/Bob Ross, 1983), pp42-43.

20. Don Quixote, a left-wing columnist notes this and combines it with a Gorzian fatalism about the revolutionary potential of workers. The working class, "conditioned by the 'soft slipper' of social conditioning; identify with and are committed to the capitalist system. They accept and have absorbed the ideology of the bourgeoisie... Consequently in the 1980s the real revolutionaries are those who have rejected the work ethic, and who have committed themselves to the goal of personal autonomy and human emancipation. Such people are to be found in the women's and ecology movements. They are the true friends of the planet and the most dynamic promoters of a relevant late twentieth century socialism" (New Zealand Monthly Review, n292, October 1986).

21. Maori academics such as Ranganui Walker and Pat Hohepa have argued that 10% of all professorships should be reserved for Maori's since Maoris comprise about 10% of New Zealand's population.

22. Sociologist Cos Jeffries goes so far as to claim that motor-cycle gang members comprise the 'vanguard' for social change. (C. W. Jeffery, "Bikers Forever Banned: Reflections on Experiences Gained While Working With a Motor-Cycle Group" - Report to the Social Sciences Research Committee, 1985.

23. In a 1979 campus debate with the Young Socialists, I was personally accused of the sins of 'vulgar marxism' and 'workerism' for arguing 'jobs for all who want them' should take precedence over the 'democratic demand' of positive job discrimination for women.

24. In 1983, in response to a query from Dr. D. Bedggood, I surveyed the opinions of self-proclaimed marxists on the permanent teaching staff at the Canterbury University. Five out of six respondents considered that the benefits gained by workers from 'super-exploitation' of oppressed people had undermined their revolutionary potential.

25. The best example of a social movement in New Zealand splintering under such pressures is that of the Women's Liberation Movement (for the debates, see issues of Broadsheet).

26. The Fourth Labour Government is attempting to take advantage of this 'ethos' to introduce 'contestability' into the framework of industrial relations, to 'free up' the labour market. Contestability means that unions compete among themselves for members.

27. Ernest Mandel considers that within the framework of the current protracted crisis and the bosses' austerity offensive, the outcome depends on the concrete interaction of four factors: "The objective relationship of forces; the degree of organisation, combativity, and class consciousness of the proletariat at the moment this offensive is unleashed (which is itself a function of all that has happened during the past fifteen or twenty years of class struggle and within the workers' movement and each capitalist country taken separately and the world as a whole); the reactions of the mass organisations of the workers' movement, primarily the unions, but also the traditional mass parties, the relationship of forces within the proletariat between the bureaucratic apparatuses on the one hand, and the new workers' vanguard that has emerged from the struggles of the past ten years on the other hand (including an additional element, decisive in the long run: the relative strength of the new revolutionary leadership now in the process of formation)" - Ernest Mandel, THE SECOND SLUMP (London: Verso, 2nd edn. 1980), p193.

28. Norman Kirk (Labour), Rob Muldoon (National) and Bruce Beetham (Social Credit) all rose to leadership because the existing leaders were perceived to 'lack charisma'.

29. When, at the end of August 1984, a great deal of previously unreleased information on state financing was made public, no doubt to cast Muldoon's growth strategy in an extra-bad light, the defeated leader felt compelled to issue a press statement in his own defence. "My Government", he claimed, "tackled the problem of a 10-year recession caused by low terms of trade by maintaining living standards [?], gradually adjusting the structure of industry... putting in place the new major projects and other export operations which will turn our current export account around, and holding a balance between all of our people" (Christchurch "Press", 31 August 1984). It proved impossible to maintain this "balance" because it was impossible to maintain the staunch defence of 'free enterprise' and state interventionism at the same time - either economically or politically.

30. Indeed the defining characteristic of Thatcherism is a systematic attack on the trade unions. The miner's strike alone cost the British Government around 78,000 million pounds. See the interview with National Union of Mineworkers General Secretary Peter Heathcliff, reprinted in International Viewpoint n100, 2 June 1986.

31. National and Labour both promise to free up the labour market. The difference between them is that whereas National believes it demands and end to compulsory unionism, Labour believes it can be achieved through the introduction of site unions - such that pay rates reflect the ability of firm's to pay.

32. Prior to the electoral victory of the Left in 1981, Le Pen's National Front received less votes than the parties to the left of the French Communist Party, such as Lutte Ouvriere and the League Communiste Revolutionnaire. In the cantonal elections held in March 1985, the National Front gained 8.6% of the vote (no candidates were stood in 600 areas); in Parisian suburbs like Montreuil and St Denis it gained 17% of the vote. See International Viewpoint (Paris), 8 April 1985, p14. For information on the extreme right in New Zealand, see P. Spoonley and E.J. Mason, BIBLIOGRAPHY OF THE EXTREME RIGHT IN NEW ZEALAND 1961-1981 (Palmerston North: Department of Sociology, Massey University, 1981).

33. See V.I. Lenin, THE STATE AND REVOLUTION, in LENIN COLLECTED WORKS, v25, pp381-492). "Smashing the bourgeois state" in marxist theory of course does not mean 'smashing up' post offices, hospitals or traffic officers. It means rather the breaking-up of bourgeois political power, the sacking of personnel in the bourgeois repressive apparatus and the dismantling of the entire bureaucratic management structure of the state apparatus, in favour of systems of popular militias, workers' councils, and plannin institutes, and national workers' congresses. In economic terms, this expansion of direct democracy and self-management would have the effect of greater efficiency and of freeing up much administrative and supervisory labour for productive activity. The eminent bourgeois economist Paul Samuelson regards the fascist solution (i.e. smashing the workers' movement) as a definite policy option, but overlooks the option of workers' control over economic management. Talking about the problem of stagflation in an interview with a Dutch business magazine, he made the following comment: "Professor Galbraith, who by the way is a good friend of mine, thinks that [accelerated inflation] can be prevented by wage and price controls. But he forgets to analyse past experiences with this instrument... an analysis of them would demonstrate unambiguously that these measures only have a favourable effect in the short term: for six to nine months they deliver the effect intended by their protagonists... there is a way to implement such a policy, but few people support it: the model of what I would call fascist capitalism. In countries like Chile, South Korea or Singapore, where a government is in power which can decree its decisions through lack of freedom, such a policy would have a chance to succeed. Stick lecturers in jail, torture intellectuals and ban the trade union movement, then it will work perhaps, if you are ruthless enough, and then the

production index can rise. The cost is always a deepening of social inequalities. But if prosperity increases sufficiently, then people will perhaps applaud these sorts of measures, so that you don't need dictators anymore to execute them. Not that it has happened anywhere yet, but you never know. In Chile for example there is still one-third of the population which cannot be bought off by prosperity. The same applies to Iran... I therefore doubt whether the fascist economic solution can be implemented... the stagflation problem is deeply rooted in the mixed economy; ultimately it flows from the fact that we maintain a humane society" - quoted in Marjanne Sint & Harmen Verbruggen (eds.), ECONOMEN OVER CRISIS (Amsterdam/Brussels: Uitgeverij Intermediar, 1982), pp139-140. This passage was translated for me by Jurriaan Bendien.

34. Chris M. Trotter, nominee for the Labour candidacy in the recent Timaru by-election, stated "The Labour Cabinet and the National Party are virtually indistinguishable in terms of their over-all desire to transform the New Zealand economy into a deregulated playground for local monopolies and trans-national corporations" (The Christchurch 'Press', 27 August 1986, p42). Sir Ronald Trotter, chief executive of Fletcher Challenge (New Zealand's largest company) goes further, preferring Labour's policies to National's: "Young Nationals were told to accept 'the broad framework and thrust' of Labour Government economic policies... There is plenty of room right now for the Opposition to take the high ground over the timing, management and concistency of application of present policies without criticising the broad framework and thrust" (The Christchurch 'Press', 3 June 1986, p20). In an analysis of the Labour Government's 1986 budget, the accounting firm Lawrence Anderson Buddle recommend businessmen to "Put your prejudices aside - let alone the trauma of identity for National and Labour supporters. We have, in the 1986 Budget, a business-oriented statement" (The Christchurch 'Press', 1 August 1986, p3).

35. The New Zealand Tribune (Socialist Unity Party), which calls the 'accord' "an instrument of class struggle" (?!), sets out the ten points as follows: "1: Defend and improve the national award system; 2. Maintain our standard of living by ensuring that: wages keep up with inflation, wages are adjusted to compensate for the effects of GST, options such as wage-indexing to be looked at; 3. Develop a wage-bargaining system that can deal with special circumstances and anomalies in some trade areas; 4. Change and strengthen the Minimum Wage Act and the Equal Pay Act; 5. Make employers pay a living wage; 6. Strengthen the social wage paid for by our taxes... 7. Legislate so that trade unions can influence the direction of economic change with the right to consultation and negotiation before management decisions are made on all decisions

affecting workers; 8. Guarantee union inputs into plans for protecting workers' incomes and jobs in rural areas; 9. Deal with the need of women workers - particularly the need for readily available, high quality and affordable childcare; 10. Enforce special clauses for Maori workers in all awards - e.g. special Tangi leave and leave for community purposes" (n379, 14 July 1986, p6).

36. "The Labour caucus had been riding 'roughshod over practically every principle the Labour Party stands for' said Mr [Chris] Trotter, in a letter to Timaru party members. (...) He listed in his letter a number of what he termed broken Labour Party principles. These included goods and services tax, the floating of the dollar, the removal of import controls, the Bank of New Zealand share sale, and job cuts on the railways... policies which fly in the face of the 1984 manifesto" (The Christchurch Press, 27 August 1986, p42).

37. INDUSTRIAL RELATIONS: A FRAMEWORK FOR REVIEW, 3 Vols. (Green Paper, released 17 December 1985.

38. In presenting the 1986 Budget to parliament, the Minister of Finance Roger Douglas' made a "plea for restraint and flexibility in the coming wage round... The only hint he gave of likely reforms to emerge from the Green Paper review of industrial relations was that they would be aimed at encouraging site-based agreements. 'Greater variation in settlements and more freedom to negotiate wages more in touch with the circumstances of different industries are vital if unemployment and labour shortages are to be minimised and the acquisition of skills encouraged,' he said. Some deregulation of bargaining rules was signalled as a means of achieving this object" (The Christchurch Press, 1 August 1986, p3).

39. G. H. Andersen, Central Executive member of the Moscow-aligned Socialist Unity Party, has declared that "A campaign to win an economic agreement between the FOL/CSU, the Labour Party and the Labour Government is an essential part of the struggle for social advance, democracy and peace" - New Zealand Tribune, n379, 14 July 1986, p6.

40. See Ernest Mandel, "The Leninist Theory of Organisation", in: Robin Blackburn (ed.), REVOLUTION AND CLASS STRUGGLE. A READER IN MARXIST POLITICS (London: Fontana, 1977).

41. "As we are beginning to understand", writes an American marxist, "the New Left was in fact two lefts, petty bourgeois and proletarian, in which the petty bourgeois left had hegemony... the New Left reproduced the century-old class struggle between petty bourgeois and proletarian socialists. In each successive arena of politicization, the left forces were opposed, undermined or purged in much the same way that

the labour bureaucrats in the 1940s moved against communist militants. The campus New Left, disconnected from and often hostile to the working class movement as a whole, lacking the discipline and collective strength of Leninist organisations, was from its earliest days receptive and vulnerable to social-democratic ideology. This political experience teaches us that the objective collusion between academic repression and petty bourgeois radicalism served to undermine and discredit any serious efforts to develop the scientific study of Marxism. With the dissolution of the student movement and purging or isolation of individual Marxists, the possibilities for the building of a rigorous Marxism within the university indeed look bleak" (Tony Platt, "Traditional Intellectuals: New Right and New Left", a paper presented at a conference of the American Sociological Association, September 1978. We cite from an expanded version published in Marlene Dixon and Susanne Jonas, eds., CONTRADICTIONS OF SOCIALIST CONSTRUCTION (San Fransisco: Synthesis Publications, 1982), p22).

42. The facile nature of this type of criticism - quite apart from being unjustified - was emphasised by Hegel: "... the refutation must not come from outside, that is, it must not proceed from assumptions lying outside the system and inconsistent with it. The system need only refuse to recognise these assumptions... The genuine refutation must penetrate the opponent's stronghold and meet him on his ground: no advantage is gained by attacking him somewhere else and defeating him where he is not" (G.W.F. Hegel, THE SCIENCE OF LOGIC, transl. A. V. Miller (London: Allen & Unwin, 1969), p581).

43. "Within classical Marxism, the central area is that of the study of social classes, a problem intimately connected with the analysis of the mode of production. Here, Marxist theory is under great pressure, from within as well as from outside critics, because the distinctions generated by the analysis of the mode of production - ownership/non-ownership of the means of production - income from property/income from paid labour; productive/unproductive labour - while still very necessary, are no longer sufficient to define either class divisions themselves or the major distinctions within classes. The issues have vexed sociologists, Marxist and otherwise, in the last two decades: to the point where one of the most respected Marxist writers [i.e. Westergaard] finds its necessary to introduce concepts of authority roles, 'career' versus 'job' occupations, gender roles and family structure, in order to define contemporary class divisions. This sort of development can be seen as the resort to extra-economic explanations for what were previously seen as essentially economic phenomena... studies in this book show that attempts by Marxists to dissolve realities like 'urbanism', 'race' and 'family' into economic and class relations have generally caused great

difficulties" - Martin Shaw (ed.), MARXIST SOCIOLOGY REVISITED (Basingstoke: Macmillan, 1985), pp17-18.

44. See Alan Adler (ed.) THESES, RESOLUTIONS AND MANIFESTOES OF THE FIRST FOUR CONGRESSES OF THE COMMUNIST INTERNATIONAL. London: Ink Links/Pluto, 1980.

45. "Capitalist production collects the population together in great centres, and causes the urban population to achieve an ever-growing preponderance. This has two results. On the one hand, it concentrates the historical motive power of society; on the other hand, it disturbs the metabolic interaction between man and the earth... hence it hinders the operation of the eternal natural condition for the lasting fertility of the soil. ... Capitalist production... only develops the techniques and the degree of combination of the social process of production by simultaneously undermining the original sources of all wealth - the soil and the worker" (Karl Marx, CAPITAL VOLUME ONE, pp637-638). For Marx and Engels' wide-ranging statements on ecological issues, see Howard L. Parsons (ed.), MARX AND ENGELS ON ECOLOGY (Westport: Greenwood Press, 1977). Parsons' introduction to this collection is unfortunately marred by apologia for the "environmental management" of the Soviet bureaucracy. For an excellent contemporary Marxist treatment of capitalist resource management, see Harry Rothman, MURDEROUS PROVIDENCE (London: Gollancz, 1972).

46. Incredible as it may seem in the light of the fact that Chinese workers today do not even have a constitutionally guaranteed right to strike, some academics in New Zealand who steadfastly followed Liu and Mao, now proclaim that Deng is - at last - really 'building socialism' in China via the detour of stock-markets, special economic zones, and the leasing of property to private enterpreneurs.

47. Even academics who are politically in olved have drawn this conclusion. In the United States, for example, a range of left-wing organisations and intellectuals, including the Rainbow Coalition, the Alabama New South Coalition, the North Star Network, Berkeley Citizens Alliance, the Communist Party USA, Jim Shock and the Democratic Socialists of America, Peter Camejo, and Michael Harrington are pointing to the right-ward drift of the population and advocate an anti-Reagan alliance with the Democratic Party under the slogan "Stop Reagan - vote Democrat". The Black, Latino, labour and women's movements, it is argued, invest their energy in the Democratic Party and, according to Jim Shock, "The reason the democratic party is pro-capitalist is that the people are pro-capitalist... The notion that a large number of people are ready for an alternative to capitalism is a fiction - if you believe this, you are from another planet. There will be no alternative to

the Democratic Party until at least the year 2000" - Jim Ryan, "Crisis of the Left in the US", in Socialist Action (Los Angeles), v4 n9, September 1986, pp10-11.

48. Cf. Trotsky's 1930 critique of mechanistic analyses made by the Stalinised Comintern: "The 'Third Period' of the Comintern's Errors" reprinted in WRITINGS OF LEON TROTSKY 1930 (New York: Pathfinder, 1975, pp. 27-68). In a recent survey, Ernest Mandel remarks soberly that "Revolutionary Marxists are not on the point of organising a general strike for a 35-hour or 32-hour week... the problem is not only to restore the confidence of the working class. It is also necessary to restore the confidence of the vanguard. The militant vanguard itself does not have a great deal of faith in the socialist project. That is the least that can be said. It is disoriented, it has lost its footing" - Ernest Mandel, "The social impact on Europe of the prolonged crisis". In: International Viewpoint, 7 April 1986. That does not mean that the proletariat has played out their role on the stage of history however. As the same author points out elsewhere, "It is precisely when a major revolutionary crisis breaks out, when the workers are confronted with the practical results of the class-conciliationist, class-collaborationist and effectively pro-capitalist policies of the social-democratic leaderships, it is precisely then that important advanced and previously organised layers of the working class can break with reformism; but it is also then that unorganised and politically inexperienced layers of the class become organised for the first time, normally flocking to that party that previously appeared as the biggest workers' party, and thereby tending to strengthen social democracy on its right, just as it is being weakened on its left" - Ernest Mandel, TROTSKY: A STUDY IN THE DYNAMIC OF HIS THOUGHT (London: NLB, 1979), p50.

49. Leon Trotsky, THE TRANSITIONAL PROGRAMME FOR SOCIALIST REVOLUTION (New York: Pathfinder, 3rd edn. 1977) p112.

50. John Molyneux, for example, describes this idea as "both exaggerated and potentially dangerous" in his LEON TROTSKY'S THEORY OF REVOLUTION (New York: St. Martins Press, 1981), p179.

51. "The year 1967 was the year which divided New Zealand as a country of the Economic Miracle of full employment and social stability and welfare from the New Zealand into which it has now degenerated..." (Wolfgang Rosenberg, THE MAGIC SQUARE. Christchurch: New Zealand Monthly Review Society, 1986, p15).

52. In 1960, Wolfgang Rosenberg considered that, but for "one or two measures", New Zealand's political development might "tilt... in the direction of an economy of permanent full employment an economic democracy" (Wolfgang Rosenberg, FULL

EMPLOYMENT. Wellington: Reed, 1960, p109). Under the impact of stagflation, Rosenberg - momentarily - recanted, claiming that "disequilibrium in the private market economy is unavoidable" (Wolfgang Rosenberg, THE COMING DEPRESSION (Christchurch: New Zealand Monthly Review Society, 1978), p29).

52. A typical social democratic statement in this respect is Antony Crosland's THE FUTURE OF SOCIALISM. (London: Cape, 1956).

53. See, in addition to the sources in note 43, Leon Trotsky, THE FIRST FOUR CONGRESSES OF THE COMMUNIST INTERNATIONAL, 2v (New York: Monad Press, 2nd edn., 1972).

54. See Goran Therborn, SCIENCE, CLASS AND SOCIETY (London: Verso, 1980), chapter five. "In a way, Weber and Lenin may be said to constitute 'the bourgeois and the proletarian Marx' of the age of imperialism... That the student of The Development of Capitalism in Russia later became the organiser of the revolution, while the student of the development of capitalism in East Prussia eventually wrote a treatise of sociology, no doubt pertains to the difference between a bourgeois and a proletarianised intellectual" (op. cit., p271).

55. "No one knows who will live in this cage of the future, or whether at the end of this tremendous development new prophets will arise, or there will be a great rebirth of old ideas and ideals, or if neither, mechanised petrification, embellished with a sort of convulsive self-importance. For of the last stage of this cultural development, it might be truly said: 'specialists without spirit, sensualists without heart, this nullity imagines it has attained a level of civilisation never before achieved" (Weber, as cited in Leslie Benson, PROLETARIANS AND PARTIES (London: Tavistock, 1978), p34.

56. "While the futility of dictatorships and colonial wars is evident today to a growing number of historians and ideologues of the bourgeoisie itself, these bourgeois ideologists cling all the more tenaciously to the techniques in the economic sphere which derive from Keynesianism and whose most successful political prototype still remains the Roosevelt experience in the United States. These techniques amount to an attempt to disarm permanently the class struggle in the imperialist countries by integrating the workers' movement into the bourgeois state, progressively undermining the workers' class consciousness, causing them to lose their sense of identity and totally atomising them in an all-embracing 'mass-consumption society'... What strikes one most of all in examining the historical perspectives of this more subtle (and apparently more successful) attempt to halt the progress of

the world revolution is the limited geographic area to which it can be applied. In order permanently to integrate the workers' movement and the majority of the workers into a society of the neo-capitalist type, the requisite minimum is an already attained level of industrialisation and aggregate wealth, as well as a steady rhythm of expansion... of a level that would exclude three-quarters of the countries of the world from all chance of success in such experiments. At most, these can find success in about twenty countries (the United States, Canada, Australia, New Zealand, Japan and Western Europe), which account for less than 20 percent of the world's population. That is doubtless the main reason that, from the historical standpoint, the attempt to stem the revolutionary tide has already failed" - Ernest Mandel, "Introduction" to FIFTY YEARS OF WORLD REVOLUTION 1917-1967 (New York: Merit Publishers, 1968), pp20-21.

57. See our discussion in chapter three for the New Zealand case. For some international comparisons, see Ian Gough, THE POLITICAL ECONOMY OF THE WELFARE STATE (London: Macmillan, 1979).

58. For a discussion of Thatcherism and Reaganomics within an historical perspective, see Philip Armstrong, Andrew Glyn and John Harrison, CAPITALISM SINCE WORLD WAR TWO (London: Fontana Paperbacks, 1984), chapter eighteen. The New Zealand variant - "Rogernomics" - is codified in the briefing material for the incoming Minister of Finance prepared by the Treasury. See The Treasury, ECONOMIC MANAGEMENT. PART 1: ECONOMIC SITUATION AND OUTLOOK. PART 2: POLICY AND ORGANISATIONAL ISSUES (Wellington: Government Printer, 1984). The material was released for publication "as part of the Government's pledge to 'open the books'" (as Roger Douglas put it in the introduction, piii).

59. The term "actually existing socialism" was popularised by Rudolf Bahro's book THE ALTERNATIVE IN EASTERN EUROPE (London: Verso, 1981). Bahro subsequently grew disillusioned with marxism - see Rudolf Bahro, FROM RED TO GREEN (London: Verso, 1984).

60. A careful examination of Lenin's writings, particularly in the period immediately following the October revolution, shows no indication that he entertained the possibility of building socialism in one country - in Russia or anywhere else. Instead, he emphasised the necessity of an entire transitional period of "socialist construction" between the conquest of state power and the final victory of the world socialist revolution (see, in particular, Lenin's unfinished 1919 article "Economics and Politics in the Era of the Dictatorship of the Proletariat", in LCW, v30, pp107-117). For a discussion of the textual evidence, see Marcel Liebman, LENINISM UNDER LENIN (London: Cape, 1975), Part 4 chapter 5.

What is true is that the concept of "socialism in one country" was already being developed by Bukharin while Lenin was still alive. See Stephen F. Cohen, BUKHARIN AND THE BOLSHEVIK REVOLUTION. A POLITICAL BIOGRAPHY, 1888-1938 (Oxford: Oxford University Press, 1980), chapter 5. Cohen had little sympathy for the Left Opposition in the Bolshevik Party, considering Preobrazhensky's advocacy of primitive socialist accumulation and Trotsky's insistence on the need to extend the revolutionary process to Europe to be contradictory (see op. cit., p161).

61. According to one British scholar, Leninism was "the chief cause of the origins of Soviet authoritarianism" David W. Lovell FROM MARX TO LENIN (Cambridge: Cambridge University Press, 1984). "Weber warned that 'socialism' - i.e. the kind of scientific socialism he saw around him in Germany - did not mean the dictatorship of the proletariat but, rather, the 'dictatorship of the official'. The subsequent development of Stalinism would seem to substantiate the profundity of Weber's critique" - Alvin W. Gouldner, THE TWO MARXISMS (London: Macmillan, 1980), p372.

62. See Moshe Lewin, LENIN'S LAST STRUGGLE (New York: Monthly Review Press, 1978); V.I. Lenin and Leon Trotsky, LENIN'S FIGHT AGAINST STALINISM, ed. by Russell Block (New York: Pathfinder, 1975).

63. The concept of education as initiation into 'forms of knowledge' was systematised by Richard S. Peters and Paul H. Hirst of the London School of Education during the 1960's and early 1970's. See R. S. Peters, ETHICS AND EDUCATION (London: George, Allen & Unwin, 1979); P. H. Hirst, KNOWLEDGE AND THE CURRICULUM (London: Routledge and Kegan Paul, 1974); and a joint work by these authors, THE LOGIC OF EDUCATION (London: Routledge and Kegan Paul, 1970). For a marxist critique, see David Adelstein, "'The Philosophy of Education' or the Wisdowm and Wit of R. S. Peters". In: Trevor Pateman (ed.), COUNTER-COURSE: A HANDBOOK FOR COURSE CRITICISM (Harmondsworth: Penguin, 1972), pp115-139.

64. See Goran Therborn, op. cit.

65. On the intellectual antecedents of major sociologists, see e.g. Lewis A. Coser, MASTERS OF SOCIOLOGICAL THOUGHT (New York: Harcourt Brace Jovanovich, 1977).

66. Weber defined sociology explicitly as a science concerning itself with the interpretive understanding of social action, in order thereby to arrive at a causal explanation of its course and effects. Human behaviour qualified as action insofar as human agents attached subjective meanings to their behaviour. Human action qualified as social insofar as its

subjective meaning took account of the behaviour of others and was thereby oriented in its course (see Max Weber, THE THEORY OF SOCIAL AND ECONOMIC ORGANISATION, ed. & introd. Talcott Parsons (New York: Free Press, 1964), p88.

67. See Leon Trotsky, "Culture and socialism" (1926), in Leon Trotsky, PROBLEMS OF EVERYDAY LIFE AND OTHER WRITINGS ON CULTURE AND SCIENCE (New York: Monad Press, 1973), pp227-229. Contrast this approach with Weber's: "The concept of culture is a value-concept. Empirical reality becomes 'culture' to us because and insofar as we relate it to value-ideas. It includes those segments and only those segments of reality which have become significant for us because of their value-relevance. Only a small portion of existing concrete reality is coloured by our value-conditioned interest and it alone is significant to us... We cannot discover, however, what is meaningful to us by means of a 'presuppositionless' investigation of empirical data. Rather perception of its meaningfulness to us is the presupposition of its becoming the object of investigation" (Max Weber, THE METHODOLOGY OF THE SOCIAL SCIENCES. (New York: Free Press, 1949), p76. Weber's ideal-typical method bears a striking resemblance to what Engels called the 'ideological method': "First the concept of the object is fabricated from the object; then the spit is turned around and the object is measured by its image, the concept. The object is then to conform to the concept, not the concept to the object" - Frederick Engels, ANTI-DUEHRING (Moscow: Progress, 1947), p119.

68. That is not to say that the historical periodisation of capitalism within the succession of modes of production is uncontroversial. See e.g. Rodney Hilton et al., THE TRANSITION FROM FEUDALISM TO CAPITALISM (London: Verso, 1978).

69. These points have been made repeatedly by marxists. See for example Istvan Meszaros, "Ideology and Social Science", in John Saville and Ralph Milliband (eds.), Socialist Register 1972 (London: Merlin Press, 1972), pp5-81.

70. Cf. Marx: "...Hegel fell into the illusion of conceiving the real as the product of thought concentrating itself, probing its own depths, and unfolding itself out of itself, by itself..." - GRUNDRISSE (Harmondsworth: Penguin, 1973), p101.

71. "In acquiring new productive forces, men change their mode of production; and in changing their mode of production, in changing their way of earning their living, they change all their social relations. The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist" - Karl Marx, THE POVERTY OF PHILOSOPHY (Moscow: Progress Publishers, 1975), p102.

72. "At the root of this reasoning lies an implied axiom: socialism equals the construction of an econmy without private property in the means of production (and all its civilising effects). If this definition is accepted, the rest flows logically. But the definition is false and non-Marxist. The elimination of private property in the means of production is a necessary but not sufficient precondition for the construction of socialism, which means a classless society. A great number of additonal preconditions are also necessary: revolution in the relations of production; elevation of the level of consciousness, self-confidence, and capacity for self-administration of the labouring masses; transformation of customs, mores, and culture; flowering of the human personality of the producers; progressive of equalisation of living conditions and access to information and culture on a world scale" - Ernest Mandel, FROM STALINISM TO EUROCOMMUNISM (London: New Left Books, 1978), pp75-76. Stalinism, i.e. bureaucratic centralism, is the attempt to build socialism without workers' self-management. Every attempt by workers to impose their control and priorities over the production and distribution of the social product in post-capitalist societies has been met by some or other 'cultural revolution' from above. Whereas stalinists attempt to habituate workers to the needs of bureaucratic centralism, Trotskyists support workers' by calling for a political revolution to 'adjust' the relations of production of the transitional society to the needs of workers. In this respect, Bahro's critique of 'actually existing socialism'THE ALTERNATIVE IN EASTERN EUROPE (London: New Left Books, 1978) - which earnt him a stint in jail - is essentially the same as Trotsky's.

74. On idealist marxisms in the New Zealand context, but from a perspective quite different from our own, see David Bedggood, "Marxism and the Intelligentsia in New Zealand: A Prehistory" (paper presented at the Marx Centenary, Department of History, University of Auckland, New Zealand, 10 May 1983). Bedggood places us in the camp of "neo-Stalinism", which according to him encompasses "all those political currents which, while critical of humanist Marxism as petty-bourgeois, adapt to the Stalinist bureaucracies (in the so-called socialist states and Western labour movements)" and includes "those who are critical of the Stalinist leadership in the USSR from the 1920's (Mandelites) [!?] or after the 20th Congress (Althusser etc.), and whose criticism of the European Communist Parties (from inside like Althusser, or outside like the [Il] Manifesto group), does not signify a break with Stalinist politics of popular 'national' roads" to socialism" (op. cit., p2 n3).

75. See Richard Crossman (ed.), THE GOD THAT FAILED (New York: Bantam Books, 1954).

76. At the very time that the social crisis fragments and disintegrates social solidarity in almost every sphere of bourgeois society, many sociologists in New Zealand have turned their attention to micro-sociological 'Community Studies'.

77. Sheldon Stryker, editor of the American Sociological Review (the organ of the American Sociological Association) not so long ago rejected a paper submitted to ASR because it was framed "in terms of issues within Marxist theory... rather than via an interest in issues of sociological theory". The Marxist section of the ASA has expressed concern at the increasing number of attacks on the legitimacy of Marxist analysis in the social sciences, in spite of (or perhaps because of) the growing sophistication of Marxist theory and research and formed an Ad Hoc Committee on Academic Freedom to communicate with ASA's COFRAT and with other professional associations to encourage them to defend the principles of academic freedom, including the right to include Marxist theories and research in the social science curriculum. See ASR Footnotes, 1985.

78. In fact, remarkably little attention has been paid by sociologists in New Zealand to the gigantic shift in economic 'norms and values'or the preoccupations of popular consciousness within the space of less than one year since the Labour Government was formed. One would think that members of the sociological profession would be queueing up to explain this shift from 'egalitarianism, security, welfare and planned progress' to 'equity, entrepreneurial risk-taking, the user pays principle and inequality as the motor of economic growth'.

79. There is the odd exception. The columnist Don Quixote (pseud.) argues that "Economic determination is not a valid concept" - presumably against the proponents of "Rogernomics" (New Zealand Monthly Review, August 1986).

80. "Sociology... necessarily has a subversive quality... Sociology cannot remain a purely academic subject, if 'academic' means a disinterested and remote scholarly pursuit, followed solely within the enclosed walls of the university" - Anthony Giddens, SOCIOLOGY: A BRIEF BUT CRITICAL INTRODUCTION (London: Macmillan, 1st edn. 1982, p23).

81. Let us recall the stirring words of the late Professor Beaglehole, one of New Zealand's most eminent historians: "It is the duty of a university to transcend its time and its environment, to be pertinacious in asking why, to be forever critical in the use of the mind, with no sense of responsibility towards established institutions merely because they are established. The argument does not call, necessarily,

for a willful and childish irresponsibility. Certainly the university should guard a tradition - but the tradition should be open for re-examination. It cannot with advantage avoid the imperatives of its own academic freedom" - J. C. Beaglehole, VICTORIA UNIVERSITY COLLEGE; AN ESSAY TOWARDS A HISTORY (Wellington: New Zealand University Press, 1949), pp283-84.

82. See Leon Trotsky, "Where Is Britain Going ?", in COLLECTED WRITINGS AND SPEECHES ON BRITAIN, v1 (London: New Park, 1974); Leon Trotsky, ON FRANCE (New York: Monad, 1979); Leon Trotsky, THE REVOLUTION BETRAYED - WHAT IS THE SOVIET UNION AND WHERE IS IT GOING ? (New York: Pathfinder, 5th edn. 1974); Leon Trotsky, EUROPE AND AMERICA: TWO SPEECHES ON IMPERIALISM (New York: Merit, 1971).

83. See Ernest Mandel, TROTSKY: A STUDY IN THE DYNAMIC OF HIS THOUGHT (London: New Left Books, 1979), pp9-10 and passim.

84. V.I. Lenin, THE DEVELOPMENT OF CAPITALISM IN RUSSIA, in LENIN COLLECTED WORKS, v3. Karl Kautsky's THE AGRARIAN QUESTION has not been translated into English, except for a few excerpts.

85. See Isaac Deutscher's trilogy: THE PROPHET ARMED, THE PROPHET UNARMED and THE PROPHET OUTCAST (Oxford: Oxford University Press, 1970).

86. "The scientifically correct position is obviously that which endeavours to start from the empirical data of the science of today in order to examine whether or not the essence of Marx's economic propositions remains valid" - Ernest Mandel, MARXIST ECONOMIC THEORY (London: Merlin Press, 1968), p17; stress deleted).

87. "I welcome every opinion based on scientific criticism. As to the prejudices of so-called public opinion, to which I have never made any concessions, now, as ever, my maxim is that of the great Florentine [i.e. Dante]: Go on your way, and let people talk" -Karl Marx, CAPITAL VOLUME ONE, p93).

88. See Immanuel Kant, CRITIQUE OF PURE REASON, transl. Norman Kemp Smith (New York: St Martin's Press, 1965).

89. Definite objective criteria exist for judging the progressiveness of a scientific theory. But no rational arbiter exists which compels a researcher to abandon his research programme in favour of another when, on the face of it, it has ceased to be progressive. See Imre Lakatos, "Falsification and the Methodology of Scientific Research Programmes", in Imre Lakatos & Alan Musgrave, eds., CRITICISM AND THE GROWTH OF KNOWLEDGE (Cambridge: Syndics of the Cambridge University Press, 1970).

90. Cf. Marx: "Men make their own history, but not of their own free will; not under circumstances they themselves have chosen, but under given and inherited circumstances, with which they are directly confronted" - Marx, "The Eighteenth Brumaire of Louis Bonaparte", in KARL MARX, SURVEYS FROM EXILE; POLITICAL WRITINGS VOLUME 2, David Fernbach ed. (Harmondsworth: Penguin, 1973), p146. Excellent discussions of the contemporary axes of the debate are available in Perry Anderson's ARGUMENTS WITHIN ENGLISH MARXISM (London: Verso, 1980) and IN THE TRACKS OF HISTORICAL MATERIALISM (London: Verso, 1983).

91. "During the twentieth century", observes an Italian marxist, "each time that a particular intellectual current has taken the upper hand in bourgeois culture - be it empirio-criticism, Bergsonism, Croceanism, phenomenology, neo-positivism or structuralism - certain marxists have attempted to 'interpret' Marx's thought in such a way as to make it as homogeneous as possible with the dominant philosophy. This did not at all mean that there was not a sincere, and often fruitful desire for discussion and mutual encounter. But it did mean a wish for the mutual encounter to take place on common ground; a wish that Marxism should appear as the philosophy which had already satisfied in advance the requirements of the most avant-garde elements of bourgeois culture, or which was at least able to incoporate them within itself without distorting itself... [However n]o sooner have you begun to rejoice at the 'humanist' and 'historicist' version of Marxism than you realise it is bourgeois culture itself, in its advanced technocratic phase, that has repudiated humanism and historicism. Now that one cannot win anyone's ear unless one translates the most common-place things into structuralist language, the task of Marxists appears to have become one of proving that Marxism is the best of all structuralisms" - Sebastiano Timpanaro, ON MATERIALISM (London: Verso, 1975), pp73-74. For Luxemburg's polemics, see Mary Alice-Waters (ed.), ROSA LUXEMBURG SPEAKS (New York: Pathfinder, 1970) and Robert Looker (ed. & introd.), SELECTED POLITICAL WRITINGS OF ROSA LUXEMBURG (London: Cape, 1972). For Lenin's polemics, see among others WHAT THE 'FRIENDS OF THE PEOPLE' ARE AND WHY THEY FIGHT THE SOCIAL DEMOCRATS (1894), in LENIN COLLECTED WORKS, v1, and WHAT IS TO BE DONE ? (1902) in LENIN COLLECTED WORKS, v5. For Marx's criticism of voluntarist notions in the Communist League in 1850, see e.g. the account of Boris Nicolaevski and Otto Maenchen-Helfen, KARL MARX: MAN AND FIGHTER (Harmondsworth: Penguin, 1976), chapter 15, and Walter Suchting, MARX: AN INTRODUCTION (Brighton: Wheatsheaf, 1983), pp65-66. This point is taken up in the appendix to Volume 1.

92. Useful accounts of revisionist criticism of Marx's economic theory are given in Louis B. Boudin, THE THEORETICAL SYSTEM OF KARL MARX (Chicago: Charles Kerr & Co, 1912); Rudolf

Hilferding, FINANCE CAPITAL (London: Routledge & Kegan Paul, 1982); William J. Blake, ELEMENTS OF MARXIAN ECONOMIC THEORY AND ITS CRITICISM (New York: Cordon Company, 1939); Paul Sweezy, THE THEORY OF CAPITALIST DEVELOPMENT (New York: Monthly Review Press, 1970); and Gerd Hardach, Dieter Karras and Ben Fine, A SHORT HISTORY OF SOCIALIST ECONOMIC THOUGHT (London: Edward Arnold, 1978).

93. "The obsessive and hermetic preoccupation of western Marxism with 'problems of method' is... deeply revealing of the role of the 'Marxist' intelligentsia (as of any other) in the division of labour. It turns out to be not a concern with the prerequisites of a sound political, ideological or artistic practice, but a narrow and obscure scholasticism... vanquished by the empiricism of the scientific and industrial revolutions, but restored to intellectual life sometimes by a re-Hegelianised and sometimes by a neo-Kantian Marxism. The illusion of intellectual strength is grounded only in a sameness of idiom, which creates in turn an illusion of common purpose, but - because abstract and comtemplative - without common work to a common end. Each, isolated with his own thoughts, increasingly alienated from experience and practice, bombards others who never truly answer, all speaking a repetitious and rootless language which has never been heard in real life. This illusion of strength has its correlative... : a pig-headed underestimation, and even loss of recognition, of the superior strength of the bourgeois-empiricist mode and its rootedness in working-class experience: a reduction of empiricism to 'mere impressionism'..." - David Selbourne, "Two Essays on Method", in Critique, n10-11, Winter-Spring 1978/79, pp78-79). The original 'method-marxist' was Gyorgy Lukacs, who in 1922 put the case as follows: "Let us assume for the sake of argument that recent research had disproved once and for all every one of Marx's individual theses. Even if this were to be proved, every serious 'orthodox' Marxist would still be able to accept all such modern findings and hence dismiss all of Marx's theses in toto - without having to renounce his orthodoxy for a single moment... orthodoxy refers exclusively to method. It is the scientific conviction that dialectical materialism is the road to truth..." - Gyorgy Lukacs, HISTORY AND CLASS CONSCIOUSNESS (London: Merlin Press, 1971), p1. In his eagerness to declare the 'openness' of marxism to new experience, Lukacs achieved the exact opposite of what he intended. If it was true that "every one of Marx's individual theses" had been falsified, this would provide the best possible reason for abandoning the marxist method of analysis. It would be irrational to stick with methods that produce only false results. Cf. Antonio Gramsci's remark that "Every research has its own specific method and constructs its own specific science, and the method has developed and been elaborated together with the development and elaboration of

this specific research and science and forms with them a single whole. To think that one can advance the progress of a work of scientific research by applying to it a standard method, chosen because it has given good results in another field of research to which it was naturally suited, is a strange delusion which has little to do with science" (Quintin Hoare and Geoffrey Nowell Smith (ed.), SELECTIONS FROM THE PRISON NOTEBOOKS OF ANTONIO GRAMSCI (London: Lawrence & Wishart, 1971), p439; quoted in Gareth Stedman Jones, "The Marxism of the Early Lukacs", in New Left Review (ed.), WESTERN MARXISM; A CRITICAL READER (London: Verso, 1978), p59). For an interesting discussion of the status of Marxist science, see Richard Hudelon, "Marxist Science as Ordinary Science", in Nous, v20 n1, March 1986.

94. Leon Trotsky, "The Curve of Capitalist Development", in Leon Trotsky, PROBLEMS OF EVERYDAY LIFE AND OTHER WRITINGS ON CULTURE AND SCIENCE. pp273-280.

95. Frederick Engels, "Introduction" to Karl Marx, THE CLASS STRUGGLES IN FRANCE 1848-1850. In: MARX-ENGELS SELECTED WORKS v1, pp186-204. For a useful commentary on this introduction, see Irving M. Zeitlin, MARXISM: A RE-EXAMINATION (Princeton: Van Nostrand, 1967), chapter 4.

Notes for Chapter One

1. Leon Trotsky, "The curve of capitalist development", in PROBLEMS OF EVERYDAY LIFE (New York: Monad, 1979), pp277, 279.

2. Ibid., p279: "If in this letter we utilise a purely arbitrary pictorial scheme, without attempting to take any actual period in history as a basis, we do so for the simple reason that any attempt of this sort would resemble far too much an incautious anticipation of those results flowing from a complex and painstaking investigation which has yet to be made".

3. Ibid., p277.

4. For a history of social accounting, see Paul Studenski, THE INCOME OF NATIONS. New York: New York University Press, 1958, v1. and C. S. Sharp, "Development and use of national income data", in Howard S. Ellis (ed.), A SURVEY OF CONTEMPORARY ECONOMICS (Homewood, Ill.: Richard D. Irwin, 1948), v1, pp. 288-313.

5. For marxist discussions of social accounting, see Charles Bettelheim, "Marx and Keynes on national income, savings and investments", in Revue d'Economie Politique (Paris), 1948, pp. 198-211; Ernest Mandel, MARXIST ECONOMIC THEORY (London: Merlin Press, 1969), chapter 10; Shigeto Tsuru, "Keynes versus Marx: the methodology of aggregates", in David Horowitz (ed.), MARX AND MODERN ECONOMICS. new York: Monthly Review Press, 1968; Michal Kalecki, "Class struggle and the distribution of the national income", in Kyklos, v24, pp1-9; Anwar Shaikh, "National Income accounts and Marxian categories" (mimeo; New York: New Schools for Social Research, December 1978); and Paolo Guissani, "Marxian categories and national income accounts" (paper presented to the first international conference of the Value National Accounts group, held September 1984 in London under the auspices of the Hamburg Institute for Social Research).

6. For useful discussions of conventional national accounting, see N. D. Ruggles and R. Ruggles, NATIONAL INCOME ACCOUNTS AND INCOME ANALYSIS, 2nd ed. (New York: McGraw-Hill, 1956) and M. Yanovksy, ANATOMY OF SOCIAL ACCOUNTING SYSTEMS (London: Chapman & Hall, 1969). Yanovsky compares the systems in use in the West with those in the used in the post-capitalist states. A brief comparison of the Keynesian and Soviet systems is also given by M. A. Jansen, "National Product", in C. D. Kernig (ed.), MARXISM, COMMUNISM AND WESTERN SOCIETY. a COMPARATIVE ENCYCLOPEDIA (New York: Herder & Herder, 1973), Volume VI. Over 40 American economists give their views on the US national

accounts in "The economic accounts of the United States: retrospect and prospect", Survey of Current Business, v51, July 1971 supplement. For details on the current New Zealand national accounting system ("NZSNA"), see NEW ZEALAND SYSTEM OF NATIONAL ACCOUNTS: CONCEPTS AND DESIGN 1971-1980/1 (Wellington: Department of Statistics, 1983). For discussions about income distribution in New Zealand, see J.A. Dowie, "A century-old estimate of the national income of New Zealand", in Business Archives and History, v6 n2, August 1966, pp117-131; F.B. Stephens, "National Income of New Zealand", in The Economic Record, v9, December 1936, pp231-256; F.B. Stephens, "New Zealand's National Income (1946-1956)", in Canterbury Economic Bulletin, n384, December 1956; F. B. Stephens, "Official Estimates of National Income 1938-39 to 1953-54", in Canterbury Economic Bulletin, n360, December 1954; A.G.B. Fisher, "Distribution of Income in New Zealand", in The Economic Record, v6, November 1930; E. Hayes, "The Distribution of Income in New Zealand" (Unpublished MA thesis, University of New Zealand, 1930); E.P. Neale, "Recent New Zealand Data Regarding the Income of Individuals", in The Economic Record, June 1941; J.H. Auten, "Income, expenditure and the terms of trade for New Zealand 1928-38", in Journal of Political Economy, v64, October 1956, pp389-99 C. Weststrate, "Estimate of the magnitude of income redistribution in New Zealand", in The Economic Record, April 1957; J.V.T. Baker and H.G. Lang, "Economic Policy and National Income", in NZOYB, 1950, pp1033-1089; G.E.F. Wood, "Social accounting and economic policy", in R. S. Parker (ed.), ECONOMIC STABILITY IN NEW ZEALAND (Wellington: New Zealand Institute of Public Administration, 1953); B.H. Easton, "Measuring income distribution: the case of New Zealand", in IDS Bulletin, v7 n2, 1975; B.H. Easton, INCOME DISTRIBUTION IN NEW ZEALAND (Wellington: NZIER, 1983); and issues of Quarterly Predictions of National Income and Expenditure.

7. "The essential feature of transfer payments is that those receiving them do not supply goods or services in exchange" -Paul A. Samuelson et. al., ECONOMICS, Second Australian Edition (Sydney: McGraw-Hill Books Co, 1975), p229.

8. See e.g. NZOYB 1963, p748.

9. see B. Easton, INCOME DISTRIBUTION IN NEW ZEALAND.

10. "For national accounting purposes it is necessary to take a restricted of production. It is not feasible to put a realistic value on the whole of economic production in the sense defined... The aim in the New Zealand system is to cover all goods and services which actually enter the market as well as that part of production which does not enter the market but for which it is reasonably practicable to impute a value on the basis of closely related or analogous market

transactions. Some transactions whose value is included conceptually in the scope of production, but have not yet been included in NZSNA, are services yielded to their owners by all durable assets except dwellings and expenditure on illegal goods and services such as illicit drugs, gambling and prostitution" - NEW ZEALAND SYSTEM OF NATIONAL ACCOUNTS: CONCEPTS AND DESIGN 1971-1980/1 (Wellington: Department of Statistics, 1983), p24.

11. In a jocular vein, Marx makes a similar point in THEORIES OF SURPLUS VALUE, Pt1 (Moscow: Progress, 1975), pp387-88: "The criminal produces not only crimes but also criminal law, and with this also the professor who gives lectures on criminal law and in addition to this the inevitable compendium in which this same professor throws his lectures onto the general market as "commodities". This brings with it the augmentation of national wealth... The criminal moreover produces the whole of the police and of criminal justice, constables, judges, hangmen, juries, etc.; and all these different lines of business... create new needs and new ways of satisfying them... Crime, through its constantly new methods of attack on property, constantly calls into being new methods of defence, and so is as productive as strikes for the invention of machines. And if one leaves the sphere of private crime: would the world-market ever have come into being but for national crime ? Indeed, would even the nations have arisen ?". (see also Marx's critical remarks about Nassau Senior's concept of productive labour in ibid., pp287-292).

12. Taxation in New Zealand is discussed in greater detail in chapter three.

13. See NZOYB 1932, p508 for the employment levy imposed in 1930 and the emergency charge of 1931. For the Social Security Fund, see NZOYB 1939, p540-41 and NZOYB 1958, p203-4 etc. The matter is taken up in greater detail in chapter five of this study.

14. The current New Zealand accounting system (NZSNA) includes some Government services as "market production" and some as "non-market production".

15. If the wage is equivalent to the cost involved in the simple reproduction of the worker, then strictly speaking all of the wage equates to "overheads". Even if this marxian argument is not accepted, and leaving aside social security benefits, unrefunded costs involved in such things as the make-up which a shop assistant applies to her face, travel from and to work, training expenses, creches, etc. as well as union fees must be regarded as real overheads consuming a significant proportion of the wage.

16. J. B. Condliffe, NEW ZEALAND IN THE MAKING. A STUDY OF ECONOMIC AND SOCIAL DEVELOPMENT (London: George Allen & Unwin, 2nd rev. edn., 1959) pp45-50.

17. According to Trotsky, "If, beginning with the productive bases of society, we ascend the stages of the superstructure - classes, the state, laws, parties, and so on - it may be established that the weight of each additional part of the superstructure is not simply to be added to, but in many cases to be multiplied by, the weight of all the preceding stages. As a result, the political consciousness of groups which long imagined themselves to be among the most advanced, displays itself, at a moment of change, as a collosal obstacle in the path of historical development" - Leon Trotsky, TERRORISM AND COMMUNISM: A REPLY TO KARL KAUTSKY (London: New Park, 1975, p41).

18. Data series supplied by Dr Charles Sedgwick, Sociology Department, University of Canterbury.

19. Data series supplied by Dr Charles Sedgwick, Sociology Department, University of Canterbury.

20. Data series collected from NZOYB, various years.

21. Data series collected from NZOYB, various years. Missing values are interpolated as the mid-point between the preceding and the succeeding year.

22. See Michael Hill, "Do sects thrive while churches languish ?", in Brian Colles and Peter Donovan (eds.), RELIGION IN NEW ZEALAND SOCIETY (Palmerston North: Dunmore Press, 1980), pp115-132.

23. For some novel attempts to construct standardised quantitative summaries of fluctuations in political and social movements over time, see C. L. Taylor, M. C. Hudson et al., WORLD HANDBOOK OF POLITICAL AND SOCIAL INDICATORS, 2nd. edn. (New Haven: Yale University Press, 1972).

24. David G. Pearson and David C. Thorns ECLIPSE OF EQUALITY (Sydney: George Allen & Unwin, pp158-163. See also: P Spoonley, C Macpherson, D Pearson and C Sedgwick (eds.)TAUIWI: RACISM AND ETHNICITY IN NEW ZEALAND (Palmerston North: Dunmore Press, 1984); Stephen Levine (ed.) Politics in New Zealand (Sydney: George Allen & Unwin, 1978); Phillida Bunkle and Beryl Hughes (eds.) WOMEN IN NEW ZEALAND SOCIETY (Sydney: George Allen & Unwin, 1980).

25. Ranganui Walker "The Maori People: Their Political Development", in Hyam Gold (ed.) NEW ZEALAND POLITICS IN PERSPECTIVE (Auckland: Longman Paul 1985).

26. See Phillida Bunkle, "A History of the Women's Movement" (5 Parts), in Broadsheet, n72 September 1979, pp24-26; n73 October 1979, pp26-29; n74 November 1979, pp26-28; n75 December 1979, pp28-31; and n76 January-February 1980, pp30-35. NZOYB 1985, section 39, Official Ministries.

27. Either way it will not be possible to confine sociological investigation and reasoning to purely subjective or superstructural analyses.

28. Cf. Marx: "...our method indicates the points where historical investigation must enter in... In order to develop the laws of bourgeois economy, therefore, it is not necessary to write the real history of the relations of production" (GRUNDRISSE, pp460-1).

Notes for Chapter Two

1. That is, for the 1925-1984 period and pending a very comprehensive disaggregate analysis of national income data.

2. See, for example, the works by Condliffe, Rosenberg, Muldoon and Sutch referred to in this study and Colin G.F. Simkin, THE INSTABILITY OF A DEPENDENT ECONOMY; ECONOMIC FLUCTUATIONS IN NEW ZEALAND, 1840-1914 (London: Oxford University Press, 1951); John D. Gould, THE RAKE'S PROGRESS ? THE NEW ZEALAND ECONOMY SINCE 1945 (Auckland: Hodder & stoughton, 1982); Gary R. Hawke, THE MAKING OF NEW ZEALAND; AN ECONOMIC HISTORY (Cambridge: Cambridge University Press, 1985); Harvey Franklin, CUL DE SAC: THE QUESTION OF NEW ZEALND'S FUTURE (Sydney: Unwin Paperbacks, 1985); and Conrad A. Blyth, THE FUTURE OF MANUFACTURING IN NEW ZEALAND (London: Oxford University Press, 1964).

3. See Ernest Mandel, MARXIST ECONOMIC THEORY pp359-60; Ernest Mandel, THE SECOND SLUMP, 2nd edn. (London: Verso, 1980), p34; Ernest Mandel, "Why be a Marxist ?" [unpublished translation by Jurriaan Bendien, Education Department, University of Canterbury, 1986, from the German original entitled "Der Mensch ist das hochste Wesen fur den Menschen", in Fritz J. Raddatz, WARUM ICH MARXIST BIN (Frankfurt: Fischer Verlag, 1980).

4. See Andrew Gamble, BRITAIN IN DECLINE (London: Macmillan, 1981), especially Part II.

5. Tibor Scitovsky, WELFARE AND COMPETITION; THE ECONOMICS OF A FULLY EMPLOYED ECONOMY (London: George Allen & Unwin, 1952) p3.

6. Ibid.

7. "Contracted reproduction occurs as a succession of production cycles which no longer allow social wealth to maintain itself but instead cause it to shrink. (...) In capitalist society contracted reproduction means that for various reasons the capitalists are unable to renew the constant capital used up and that wages paid out do not enable the producers completely to reconstitute their labour power. (...) War economy is the typical example of contracted reproduction under capitalism" (Ernest Mandel, MARXIST ECONOMIC THEORY, pp331-333).

8. On the other hand marxists deny that, as Helmut Schmidt sloganised, "todays' profits are tomorrow's jobs". The model

elaborated in this chapter is inspired by Mandel's criticism of right-wing social democratic economists in THE SECOND SLUMP, pp192-208. Elsewhere the same author cites Natalia Moszkowska as follows: "The same factor that determines the conjunctural curve also determines the overall curve of the capitalist economy. If we disregard secondary factiors and causes and only consider the main cause we can distinguish two diametrically opposed tendencies in economics. The representatives of one tendency see the cause of disruptions in the economy in excessive consumption and insufficient saving (under-accumulation), those of the other tendency conversely in insufficient consumption and excessive saving (over-accumulation)... It is true that many economists reject mono-causal theories of crises because of the 'complexity of ways in which crises manifest themselves' and speak of a 'multiplicity of sources for these events'. But a closer examination shows that even in the theories of these researchers a single cause mostly predominates" - Ernest Mandel, LATE CAPITALISM (London: Verso, 1978), p34. In a review of literature on the subject, Nancy Baster remarks that "Economic theory provides two guidelines concerning the distribution of income and economic growth. The first (the neo-classical theory) is supply-oriented, and approaches income distribution from the production-end of the income-generating process... [Here, t]he distribution of income reflects the contribution of the different factors of production to output, or the marginal productivity of the factors of production, usually limited to the broad categories of labour and capital. Relative shares in the distribution of income depend on factor prices, arising from market supply and demand, and on the elasticity of substitution between factors in response to changes in relative factor prices. The emphasis in this case is on the relation between incomes and productivity. The second, the post-Keynesian theory, starts from the end of aggregate expenditure and effective demand, and works back to the investment requirements of a given rate of growth, assuming a given capital-output ratio. The rate of investment depends on the level of income, on the distribution between profits and wages and on the propensities to consume and save of capitalists and workers. The process of income differentiation is thus related to the way effective demand is generated, and the rate at which income grows. The emphasis here is on the consumption and saving propensities of entrepreneurs and workers" - Nancy Baster, DISTRIBUTION OF INCOME AND ECONOMIC GROWTH: CONCEPTS AND ISSUES (Geneva: United Nations Research Institute for Social Development, 1970) p36. Michael Harrington analyses US economic history from 1930's using a model similar to our own in "America's present and futures", in Milos Nicolic (ed.) SOCIALISM ON THE THRESHOLD OF THE TWENTY-FIRST CENTURY (London: Verso, 1985).

9. See Revolutionary Communist League, "A Marxist View of the Budget", in New Zealand Monthly Review, March 1985.

10. See John Maynard Keynes, THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY (London: Macmillan, 1961).

11. Within the framework of bourgeois theories of economic growth, growth is mainly a function of two variables, the savings ratio and some capital coefficient. Put simply, if a country saves 10% of its national income and the capital coefficient is 4:1 (i.e. 4 billion dollars must be invested to raise the national income by one billion), then growth rate of the national income will amount to 2.5%.

12. "...much of economic theory (be it the out-dated 'free enterprise' type, or of then modern 'Keynesian' type) is mere rationalisation of policies which arise as the logical outcome of specific historical situations" - Wolfgang Rosenberg, "Forty Years of Joy and Sorrow of a New Zealand Economist", in W.E. Willmott (ed.), NEW ZEALAND AND THE WORLD; ESSAYS IN HONOUR OF WOLFGANG ROSENBERG (Christchurch: University of Canterbury, 1980), p129.

13. The Christchurch 'Press' (11 October 1985, p5) reports one worker's response to Lange's austerity rhetoric: "belt-tightening is happening allright. The workers are tightening their belts by taking the belt in a notch, while the employers are tightening their belts by pushing out their stomachs".

14. By contrast, and according to the Minister of Finance, "The present tax system is seriously flawed. It is causing a misallocation of resources and contains many equities. The system places too much weight on the direct taxation of personal incomes... High marginal tax rates reduce incentives to work and to save... These effects reduce the growth of the economy and the rate of job creation." - Hon. R. O. Douglas in the 1984 BUDGET (Wellington: Government Printer, 1984), p18.

15. See Sue Himmelweit, "The individual as Basic Unit of Analysis", chapter 2 in Francis Green and Petter Nore, ECONOMICS: AN ANTI-TEXT (London: Macmillan, 1977), pp21-35.

16. See Simon Mohun, "Consumer Sovereignity", chapter 4 in Green & Nore, op. cit., pp57-75.

17. See, for example the Treasury Report to the incoming Labour Government: "The main data on economic performance, looked at collectively and in comparison with other countries, tell an unmistakable story. Over the ten years to 1983, New Zealand's real Gross Domestic Product grew by less than half the average for all OECD countries (...) This relatively poor performance

reflected, in part, New Zealand's unwillingness to adjust to changing external conditions (...) While our resistance to adjustment may have been intended to protect living standards, the fast-growing economies have in fact coped with the difficulties with less economic and social stress. We have protected subsectors of the economy at the expense of general welfare (...) Put simply, policies for faster adjustment allow changes in international prices to be reflected in the domestic economy. Ultimately this is the only way to ensure that the country's resources are continually being allocated so as to achieve the highest national income available". ECONOMIC MANAGEMENT (Wellington: The Treasury, 1984) pp104-108.

18. "It is notable that ways of promoting social welfare which are consistent with better economic performance tend also to be those which take advantage of the srengths of individual incentives... Fundamental to our comments on social policy objectives is the presumption that in general individuals (or their guardians) can pursue their own interests satisfactorily, or at least as well as others could for them... In designing laws, regulations, and tax, welfare and expenditure systems, society sets the rules which influence people's ability to advance their own welfare through voluntary market exchanges... The failure of much government effort to correct perceived social problems arises because it has focussed on desired results (outcomes) and ignored the inherent nature and implications of processes or the rules surrounding individual's decisions" - ECONOMIC MANAGEMENT, pp251-2.

19. Cited in Linda Beatson "The Collective Thoughts of Chairman Manning", Canta June 1986.

20. "When the government assumes responsibility for individual's decisions, an inevitable consequence is the reduction of freedom for individuals to make their own choices - in fact, society is indicating that it knows better what is good for at least some of its members than they do themselves" ECONOMIC MANAGMENT, p253.

21. ECONOMIC MANAGEMENT.

22. "Often these controls and restrictions were claimed to benefit the less well-off in society ... Generally, they ended up conferring benefits on wealthy individuals and large companies at the expense of small savers and the small business sector... [this] led to the propping up of some industries which were inefficient and uncompetitive by world standards... This Budget sees a more rapid adjustment to economic reality. There will be pain for some and benefits for others, but it is essential to focus on the overall strategy. While some

businesses will face higher costs, these will generally be the businesses which have benefitted in the past from Government handouts. The Government has been even-handed. All productive sectors are being placed under equivalent pressure to adjust to a changing world". Hon. R. O. Douglas, BUDGET 1984 (Wellington: Government Printer), pp4-26.

23. The rationale for user pays is given in ECONOMIC MANAGEMENT: "The government has a major impact on economic and social performance through the pricing policies and performance of its trading activities... Subsidies of this type are delivered to all users, irrespective of need... Existing control and monitoring mechanisms, together with the advantages and protection to enable "social" objectives to be met, create an environment where performance is difficult to measure and the incentives and pressures to manage resources are seriously attenuated ... the solution to these problems lies in removing the non-commercial functions of these activities and replacing them with explicit measures which target assistance to those it is intended to help" (pp189-9).

24. The "corporatisation" of the state sector means the commercialisation of state provided services - The corporations areto be "set up as companies registered under the Companies Act... the enterprises will supply a 'Statement of Corporate Intent' to Parliament and issue annual and yearly reports in much the same way as companies issue reports to their shareholders... The Government is trying to remove all of the so-called 'non-commercial aims from the state corporations. It is equating non commercial with 'unprofitable' and if each unprofitable activity was terminated there could be major cuts right across the state sector. The Government says that it will handle this by asking the new boards to identify which functions are not profitable. The Government will then assess whether it wants those activities to continue for social reasons. If it does, it will call for tenders and the same service might well be supplied by a completely different organisation and possibly one that is outside of the state sector itself" The PSA Journal (New Zealand Public Service Association) v73, n10, 22 October - 18 November 1986, p5.

25. Patricia Herbert reports that the "big theme to emerge from the Green paper review of industrial relations [is] incentives to encourage plant-based wage deals" The Christchurch 'Press', July 26 1986, p8.

26. NZOYB 1960, p861; NZOYB 1935, p 497f.; NZOYB 1937 p551f.

27. As Treasury puts it: the "net borrowing requirement of the Government is potentially absorbing a steadily increasing proportion of total national savings ... the danger is that

competition for savings between the private and public sectors could push up interest rates and reduce investment at the expense of future welfare" - ECONOMIC MANAGEMENT, p181.

28. See e.g. Tony Raynor, professor of agricultural economics at Lincoln College, "Mr Douglas's third Budget is, like its predecessors, an economists Budget. The main item of evidence is that it breaks the tradition of decades, by moving away from the three-year election cycle. Traditionally, elections have been preceded by inflationary Budgets and then, as inevitably, followed by contractionary attempts to reduce the damage that results. This cyclical pattern has been one of the main causes of New Zealand's secular stagnation". The Christchurch 'Press', 1 August, p3.

29. Even if the interest rates are raised to offset inflation "... the risk is that the higher interest rates will lead to a decline in interest sensitive private expenditures (especially investment) - ECONOMIC MANAGEMENT, p175.

30. Ernest Mandel "World Crisis and the Monetarist Answer", in Karel Jansen (ed.) MONETARISM, ECONOMIC CRISIS AND THE THIRD WORLD (London: Frank Cass, 1983), p87.

31. The Treasury recipe for economic recovery in New Zealand is that "real wages (deflated by producer output prices) must fall relative to labour productivity, for the whole economy. This would involve an expansion in the share of profits in national income. Profits, by providing the incentive and funds for increased investment, lay the foundations for future growth. This proicess is a prerequisite to increasing employment" ECONOMIC MANAGEMENT, p241.

32. Cf. John Maynard Keynes: "The system is not self-adjusting, and, without purposive direction, it is incapable of translating our actual poverty into our pontential plenty" (COLLECTED WRITINGS, v13, p491).

33. Tibor Scitovsky, WELFARE AND COMPETITION, chapter 1.

34. C. Westrate TYPES OF ECONOMY, A COMPARATIVE STUDY OF SEVEN TYPES OF ECONOMIC LIFE (Christchurch: University of Canterbury 1963) p166.

35. "... economic growth almost invariably goes hand in hand with increased demand in the economy. Indeed one may say that economic growth is the result of high levels of effective demand. When unused resources exist one can assume that 'demand creates its own supply'" - W. Rosenberg THE MAGIC SQUARE (Christchurch: New Zealand Monthly Review Society, 1986), p42.

36. "...large monopolistic producers can set their prices on a 'take it or leave it' basis. If demand falls, because their prices are high, they can dismiss workers and so the burden of monpolistic power falls on buyers and working people alike. In many such instances, the 'Market' is merely the monopolists' diktat. (A harsh settlement forced on the defeated or powerless)" - Wolfgang Rosenberg, THE MAGIC SQUARE, p89.

38. MONETARY & FISCAL POLICY IN NEW ZEALAND (submissions to the Royal Commission on Monetary, Credit and Banking Systems 1955, by the Reserve Bank of New Zealand, associated banks in New Zealand, and the New Zealand Treasury (Wellington: Reserve Bank of New Zealand, 1955), pp240, 244.

39. See Wolfgang Rosenberg, THE MAGIC SQUARE.

40. Ibid., p43.

41. Ibid., p15 and p29. In fact, Rosenberg suggests that "our economic policies were for thirty years so successful that one may say that New Zealand was during these thirty years possibly the most successful society in human history" (p25).

42. Ibid., p15 and p29ff.

43. See Imre Lakatos, "Falsification and the Methodology of Scientific Research Programmes", in: Imre Lakatos & Alan Musgrave (eds.).

44. Wolfgang Rosenberg, "Forty Years of Joy and Sorrow of a New Zealand economist", in W. E. Willmott (ed.), NEW ZEALAND AND THE WORLD. ESSAYS IN HONOUR OF WOLFGANG ROSENBERG (Christchurch: University of Canterbury, 1980), p129.

Notes to Chapter Three

1. The current New Zealand system of national accounts enables a detailed separate analysis of the contribution of the private sector to the national income. However, a consistent series is available only for the period since 1970. Under NZSNA, aggregates are estimated mainly on the basis of direct surveys, whereas previously aggregates were estimated on the basis of taxation data. For guides to New Zealand official statistical material, see E.P. Neale, GUIDE TO NEW ZEALAND OFFICIAL STATISTICS (Auckland: Auckland University texts, 3rd enlarged edn., 1955); New Zealand Department of Statistics, STATISTICAL PUBLICATIONS 1840-1980 (Wellington: Department of Statistics, 1980); New Zealand Department of Statistics, OFFICIAL STATISTICS OF NEW ZEALAND (Wellington: Department of Statistics, 1980); C.L. Carpenter, GUIDE TO NEW ZEALAND INFORMATION SOURCES, PART 5: OFFICIAL PUBLICATIONS (Palmerston North: Massey University Library, 1980). For references to New Zealand economic literature, see the supplement to Economic Record, v15, 1939; Bruce G. Hardie, A BIBLIOGRAPHY OF NEW ZEALAND ECONOMICS AND ECONOMIC HISTORY (Auckland: Department of Economics, University of Auckland, 1953); Edward G. Ross, THE POST-WAR DEVELOPMENT OF SECONDARY INDUSTRIES IN NEW ZEALAND; A BIBLIOGRAPHY (Wellington: Library School, 1957); Herbert O. Roth, SECONDARY INDUSTRIES IN NEW ZEALAND; a BIBLIOGRAPHY (Wellington: Library School, 1947); F.W. Holmes and R.H. Carey, A PRELIMINARY BIBLIOGRAPHY OF NEW ZEALAND ECONOMICS AND ECONOMIC HISTORY (Wellington: Department of Economics, Victoria University of Wellington, 1967); Margaret D. Rodger, THESES ON THE HISTORY OF NEW ZEALAND, PART 4: ECONOMIC, AGRICULTURAL AND INDUSTRIAL HISTORY (Palmertson North: Massey University Library, 1972); Reserve Bank of New Zealand, BIBLIOGRAPHY OF BANKING AND CURRENCY IN NEW ZEALAND (Reprint from RBNZ Bulletin, June 1968).

2. NZOYB 1947-49, pp360-1.

3. Ibid, p361.

4. Ibid.

5. See Volume 2, pp192-96.

6. See e.g. NZOYB 1963, p534.

7. See Volume 2, p74.

8. Ibid., p79.

9. See e.g. NZOYB 1963, p538.

10. See Volume 2, pp192-96

12. See Volume 2, pp199-200 for the rationale behind these operations and and pp213-220 for the results.

13. Ibid., pp308-32.

14. See Volume 2, pp199-200 for the rationale behind these operations and and pp213-220 for the results.

15. Thus the customary indicator of the level of state interventionism (state expenditure as a fraction of GDP) is misleading.

16. We are not familiar with the legal systems of other countries, but local experts agree that the New Zealand Statute Book is a legal nightmare. K.J. Keith stated eight years ago that it now ran "well over 60 volumes of an average of 800 pages each", adding that "not every page of those 60 volumes - which must contain something like 15,000,000 words - is still part of the law; indeed, a few volumes are completely superseded" (K.J. Keith, "A lawyer looks at Parliament", in Sir John Marshall (ed.), THE REFORM OF PARLIAMENT (Wellington: NZIPA, 1978), p27). Geoffrey Palmer predicted in 1977 that "it will not be many years before we are all drowning in a sea of statute law" (See his article "The Fastest Law-makers in the West", in the New Zealand Listener, 28 May 1977, p. 14).

17. "Colonial Treasurer Julius Vogel instigated a period of public works in N.Z. As a result of the Vogel Scheme, almost 20 million pounds was borrowed on the London capital market to finance 1,800 km of railways, 4,000 km of telegraph lines, immigration and the building of many roads and public buildings. A boom followed in the years to 1874 with full employment and rising incomes. But the growth slowed as export prices fell in the years 1874-76" - Bryce Fraser (ed.) THE NEW ZEALAND BOOK OF EVENTS (Auckland: Reed Methuen 1986), p210.

18. J. E. Le Rossignol and W. D. Stewart, STATE SOCIALISM IN NEW ZEALAND (London, 1912) cited in J. B. Condliffe NEW ZEALAND IN THE MAKING (London: George Allen & Unwin 1936), p38.

19. J. B. Condliffe, NEW ZEALAND IN THE MAKING, p40.

20. The Industrial Conciliation & Arbitration Act is often seen as a part of the 'social experimenting' of the 'progressives' in the Liberal Party. Liberal parliamentarian, W. Pember Reeves portrays the Act as an attempt 'from above' to combat sweating in factories. See his STATE EXPERIMENTS IN AUSTRALIA AND NEW ZEALAND (Melbourne: Macmillan, 1969). But from the late

1880's workers combined in unions to combat sweating themselves. To gain union recognition required a considerable number of strikes, and the primary aim of the IC&A Act was in fact to reduce the extent of industrial conflict. For an account of industrial arbitration up to 1961, see Noel S. Woods, INDUSTRIAL CONCILIATION AND ARBITRATION IN NEW ZEALAND (Wellington: Government Printer, 1963). See also Herbert Roth, "The History of New Zealand Industrial Legislation", in New Zealand Monthly Review, No. 86, March 1977.

21. "By 1890, instead of the original six colonies in New Zealand there was only one, not because the nine provinces that expanded from the six colonies had been abolished but because the country had been unified - mainly by the roads, bridges, and railways policy of Vogel" - W. B. Sutch POVERTY AND PROGRESS IN NEW ZEALAND; A REASSESSMENT (Wellington: Reed, 1969), p98.

22. Unfortunately no systematic empirical investigation has yet been made by Marxists of the origins of New Zealand capitalism. See, however, David Bedggood, RICH AND POOR IN NEW ZEALAND (Auckland: George Allen and Unwin, 1980), chapter 2, for a brief sketch. See also the following non-marxist studies: Donald Denoon, SETTLER CAPITALISM; THE DYNAMICS OF DEPENDENT DEVELOPMENT IN THE SOUTHERN HEMISPHERE (Oxford: Clarendon Press, 1983); John A. Dowie, "Studies in New Zealand investment, 1879-1900" (Unpublished Phd Thesis, Australian National University, 1965).

23. According to Sutch, these merchants were primarily British. See W.B. Sutch, POVERTY AND PROGRESS IN NEW ZEALAND; A REASSESSMENT (Wellington: Reed, 1969), p12.

24. For a systematic empirical investigation of New Zealand's foreign trade over the 1853-1914 period, see J.B. Condliffe, "The external trade of New Zealand", NZOYB 1915, pp858-962. This essay was presented by Condliffe for his MA degree in economics in the University of New Zealand. While his subject matter was different, his methodological approach was very similar to our own: "There seems never to have been any systematic investigation of the nature and changes of New Zealand trade, and there is a wealth of information, yet untouched, lying in the blue-books. The main objects of the following thesis are four: (1) To trace the growth of the foreign trade for the sixty-two years 1853-1914, and to correlate it with the outstanding features of New Zealand's industrial and political history; (2) To ascertain and set out clearly the character of the trade, the nature of its imports and exports, and, if possible, to trace any tendencies to change in their nature; (3) To examine the distribution of the trade over the various countries participating in it, and to discuss the question of markets; (4) To examine how far the

foreign trade of New Zealand is an index of prosperity" (Ibid., p859).

25. W. B. Sutch POVERTY AND PROGRESS IN NEW ZEALAND: A RE-ASSESSMENT, p205.

26. NZOYB 1960, p861; Cf. NZOYB 1935, p497f and NZOYB 1937, p551f.

27. According to one historian, "between 1911 and 1926, 40 per cent of all New Zealanders changed their place of residence from rural to urban..." At the same time, from 1881, political weight was skewed against urban voters by the addition of a pro-rata fictional population to rural populations" - Len Richardson, "Parties and political change", in THE OXFORD HISTORY OF NEW ZEALAND, p216. On the Country Quota, see Volume 2 of the present study, p 478.

28. On the formation of the Labour Party, see Barry Gustafson, LABOUR'S PATH TO POLITICAL INDEPENDENCE (Auckland: Auckland University Press/Oxford University Press, 1980).

29. NZOYB 1950, p691.

30. Ibid.

31. Ibid.

32. The various fragile alliances, and their imperatives, are traced by Len Richardson, op. cit., pp212-225.

33. J. B. Condliffe, NEW ZEALAND IN THE MAKING, p47. On provisions for the resettlement of returned soldiers on the land see NZOYB 1921-22, pp320-24.

34. The whole problematic of the 'revolutionary potential of working farmers' arose in New Zealand politics during this period. The bosses' solution to the crisis was the reduction of input costs, in the last analysis lower wages for workers. The solution proposed by workers' organisations was to maintain output prices and cut out the middle-men. "Labour argued that the periodic slumps in prices for primary produce could only be banished when there was an assured market and prices were guranteed" (Richardson, op. cit. pp218-9). At first small farmers in New Zealand oriented to the bosses solution.

35. See e.g. W.B. Sutch, POVERTY AND PROGRESS IN NEW ZEALAND; A REASSESSMENT, chapter 15.

36. Ibid., p227.

37. Ibid., p228.

38. W.B. Sutch, "Depression between the Wars" in W.B Sutch, COLONY OR NATION ? ECONOMIC CRISES IN NEW ZEALAND FROM THE 1860's to the 1960's (Sydney: Sydney University Press 1966), p44. Under the Mortgage Final Extension Act 1924 "it was unlawful for a mortgagee to call up the principal or any part thereof, to exercise a poer of sale or enter into possession, or to commence an action for breach of any covenant in the mortgage, except with the leave of the Supreme Court" - NZOYB 1928, p724.

39. J.B. Condliffe, NEW ZEALAND IN THE MAKING, p47.

40. W. B. Sutch, POVERTY AND PROGRESS IN NEW ZEALAND; A REASSESSMENT, p229.

41. Ibid., p228.

42. "Dissent on the right found a voice in the hurriedly formed Democrat Party, which was intended to meet the dismay and bewilderment of respectable, conservative voting folk in towns and city suburbs in the face of their own Government's failure. The Democrat programme, a paradoxical combination of promised austerity and generosity, was, however, reminiscent of other vanished hopes. Like their United predecessors, the Democrats were keen to lower taxes yet ready to borrow, hostile to the necessities of government yet prepared to offer self-contradictory terms in order that they might personally govern. None of the fifty-four Democrats found for the eighty seats was elected, although their share of the vote was sufficient to divide conservatism in the face of the Labour challenge" - Robert Chapman, "From National to Labour", in THE OXFORD HISTORY OF NEW ZEALAND, p334.

43. In 1919, the Labour Party programme called for the gradually nationalisation of all privately held land. In 1927, however, the Party manifesto promised to 'support and defend the working farmer in his everyday grievances and disabilities', i.e. to accept the existing basis of land ownership. An historian comments: "The moderation of the land policy was part of Labour's transformation from protest party to credible alternative government" - Len Richardson, "Parties and Political Change", in THE OXFORD HISTORY OF NEW ZEALAND, p219.

44. W. B. Sutch, POVERTY AND PROGRESS IN NEW ZEALAND; A REASSESSMENT, pp244-46.

45. Wolfgang Rosenberg "Forty Years of Joy and Sorrow of a New Zealand Economist", in W.E. Willmott (ed.) NEW ZEALAND AND THE WORLD: ESSAYS IN HONOUR OF WOLFGANG ROSENBERG, pp128-9.

46. "A substantial capital flight, mainly to Australia was under way" - J.B. Condliffe, NEW ZEALAND IN THE MAKING, p52.

47. Taxation data are taken from NZOYB, respective years.

48. AN ENCYCLOPAEDIA OF NEW ZEALAND, (Wellington: Government Printer, 1966) Vol.2 p807. For the aims, objectives and rules of association of the National Party see R. N. Kelson "The New Zealand National Party", Political Science, 1954 and a forthcoming book by Barry Gustafson: THE NATIONAL PARTY: THE FIRST FIFTY YEARS.

49. "Where National truly prospered [in the general election of 1943] was in the countryside. Dissatisfaction amongst farmers about the level of guaranteed prices and land sales control cleared Labour from its last farmer seat and decisvely swung the balance of rural electorates by presenting three more to National" - Robert Chapman, "From Labour to National", in THE OXFORD HISTORY OF NEW ZEALAND, p351.

50. Under the Electoral Amendment Act 1945, the basis for determining electoral boundaries was altered from total to adult population. This change was subsequently overturned and the original system restored.

51. For a workers' account of the 1951 Waterfront Lockout see Dick Scott, 151 DAYS: HISTORY OF THE GREAT WATERFRONT LOCKOUT AND SUPPORTING STRIKES, FEBRUARY 15-JULY 15 1951 (Auckland: N.Z. Waterfront Workers' Union (Deregistered), 1952). See further Michael Bassett, CONFRONTATION '51.

52. "The Korean War lead to a substantial increase in the demand for, and price of, wool. The result was a major upswing in the terms of trade in favour of NZ. The terms of trade index (based on 1957=100) was 115 in 1951 but had fallen to 88 by 1952. Wool exports were inhibited by the Waterfront Strike and a number of shopments could not take advantage of the higher prices" - THE NEW ZEALAND BOOK OF EVENTS, p212.

53. The most prolific and systematic of such commentators is Wolfgang Rosenberg. See e.g. his latest book THE MAGIC SQUARE.

54. "Ironically, after 1967, ministers of finance were finally persuaded that fiscal adjustments were needed more frequently than once a year and 'mini-budgets' were used at regular intervals. Such 'fine-tuning' was overwhelmed by the loss of belief in the general efficacy of government measures" - G.R. Hawke, "The growth of the economy", in THE OXFORD HISTORY OF NEW ZEALAND, p392.

55. On the Third Labour Government's economic policies see the articles by Rob Muldoon and Bryan Philpott in LABOUR IN POWER;

PROMISE & PERFORMANCE EVALUATIONS OF THE WORK OF THE NEW ZEALAND GOVERNMENT FROM 1972-75 (Wellington: New Zealand University Press, 1975).

56. The National Party expressed its growth strategy as follows: "To beat the world recession, New Zealand needs to grow faster, and the National government through the private sector, has a host of projects underway, which, together call for the the investment of a huge $6,600 million. These are projects in petro-chemicals, electricity, metals, forestry, transport and agriculture. They will earn the additional foreign exchange we need and both the projects themselves, and the extra overseas earnings generated will create new jobs throughout New Zealand ... Each additional $1 million of foreign exchange earned will create 160 new jobs. National's growth plan will work like this: $6,500 million is invested in projects that together will earn an extra $1,000 million a year in foreign exchange - THAT MEANS 160,000 NEW JOBS ! But as well as these new projects there is strong growth taking place in existing industries. The farming sector - New Zealand's greatest growth industry - is growing at a rate which could mean the creation of 150,000 new jobs over the next decade (a combination of farm jobs and 'off the farm' spin off jobs) and our manufacturers are increasing their export performance at a rate which will result in the creation of yet another 100,000 jobs within ten years ... THAT IS 410,000 NEW JOBS BY THE END OF THE 1980's". National Party Pamphlet, "We've got New Zealand going: We've got it really growing", 1981.

57. For critical reviews of the Think Big projects see "The State of the Big Projects", and Resources: Taking them off our hands" in Open Government Report n11, November 1981; "Think Big - or vote for a Black Hole" in Energywatch N6, November 1981; "Think Big, In "Think Again, Think People: a critique of the National Government's growth strategy" Kevin P. Clements argued that to thwart National's economic thinking which was 'market oriented and monetarist in thrust' it would be necessary to elect a Labour government (?!) (11th N.Z. Geography Conference 1981; "Think Big costs in a small Country" in Energywatch n4, July/August 1982; "And Now, Think Big's Fast Track Mach 2" in Open Government Report n14, December 1982; "Think Big's Gold Mine" Energywatch n3, March/May 1983; "Major Projects, More Planning Less Promotion" in Open Government Report n16, November 1983; "Whatever Happened to those 410,000 jobs ?" in Open Government Report n19, July 1984.

58. On the extent of, and background to, the wage/price freeze see among others R. D. Muldoon, THE NEW ZEALAND ECONOMY: A PERSONAL VIEW (Auckland: Endeavour Press 1985) , p122.

59. Wolfgang Rosenberg "Forty Years of Joy and Sorrow of a New Zealand Economist", in W.E. Willmott (ed.), NEW ZEALAND AND THE WORLD: ESSAYS IN HONOUR OF WOLFGANG ROSENBERG, p129.

60. "On 14th July 1984, snap elections called by the outgoing Prime Minister Sir Robert Muldoon produced a convincing parliamentary majority for the Labour Party. Two factors contributed to the Labour Party success: The unpopularity of some of the Muldoon's administration's prices and wages policies which seemed not to have controlled profits, but had fairly successfully controlled wages. Workers looked for a better deal by voting for the opposition party. The other factor was the split in the National Party where property millionaire Bob Jones had defected from National to form his own super-liberal party. This 'New Zealand Party' was in many electorates decisive in securing a victory for Labour by effectively splitting the National vote" - Wolfgang Rosenberg, THE MAGIC SQUARE, p10.

61. NZOYB 1947-49, p618.

62. NZOYB 1950, p691.

63. Ibid.

64. Ibid.

65. Ibid.

66. Ibid.

67. Ibid.

68. Ibid., p692.

69. Ibid.

70. Ibid.

71. Ibid.

72. NZOYB 1947-49, p619.

73. Ibid., p877.

74. NZOYB 1955, p881.

75. NZOYB 1947-49, p619.

76. NZOYB 1955, pp977-980.

77. Ibid., p881.

78. NZOYB 1973, pp658-9.

79. NZOYB 1959, p963.

80. NZOYB 1975, p651.

81. Ibid., p652.

82. Ibid.

83. NZOYB 1980, p612.

84. NZOYB 1983, pp649-50.

85. NZOYB 1984, p661.

86. Ibid., p857.

87. NZOYB 1950, p729.

88. Noel S. Woods, INDUSTRIAL CONCILIATION AND ARBITRATION IN NEW ZEALAND, pp129-130.

89. NZOYB 1946, p625.

90. Woods, op. cit. pp133-142.

91. Ibid., p148.

92. Ibid., p167.

93. NZOYB 1946, p628.

94. Ibid.

95. Ibid.

96. Ibid., p733.

97. Woods, op. cit., p169.

98. NZOYB 1946, p734.

99. Woods, op. cit. p176.

100. Ibid.

101. Ibid., pp181-2.

102. Ibid., p185.

103. NZOYB 1975, p871.

104. NZOYB 1973, p885.

105. Ibid.

106. Ibid., p873.

107. Johnathon Boston, INCOMES POLICY IN NEW ZEALAND (Wellington: Victoria University Press 1984), p10.

108. Ibid.

109. Ibid.

110. NZOYB 1947-49, p690.

111. Ibid.

112. Ibid.

113. Ibid, p691

114. Ibid.

115. NZOYB 1958, pp1076-77.

116. NZOYB 1973, p537.

117. NZOYB 1975, p526.

118. NZOYB 1978, p483.

119. NZOYB 1984, p661.

120. NZOYB 1975, pp788-89.

121. See e.g. NZOYB 1947-49 (p505); NZOYB 1975 (Section 29); NZOYB 1980 (pp716-729).

122. Reserve Bank of New Zealand, MONETARY & FISCAL POLICY IN NEW ZEALAND (Wellington: RBNZ, 1955), p8.

123. Rosenberg, THE MAGIC SQUARE, chapter 2.

124. MONETARY & FISCAL POLICY IN NEW ZEALAND, pp8-16.

125. Ibid., p78.

126. Ibid., pp209-10.

127. Ibid., pp69-70.

128. NZOYB 1961, pp601-608.

129. NZOYB 1985, pp431-32.

130. NZOYB 1961, p881.

131. Ibid.

132. NZOYB 1973, p800 & p811.

133. NZOYB 1974, pp805-6.

134. NZOYB 1980, p612.

135. NZOYB 1978, pp716-8.

136. NZOYB 1982, pp731-3.

137. NZOYB 1947-49, p701.

138. "One thing the nazi experience taught me was that economics and politics are inextricably linked. Another thing it taught me was that the chaos and disorganisation connected with the regime of 'laissez-faire unemployment cannot be overcome by returning to the predepression way of doing things" - Wolfgang Rosenberg "Forty Years of Joy and Sorrow of a New Zealand Economist", in W.E. Willmott (ed.), NEW ZEALAND AND THE WORLD: ESSAYS IN HONOUR OF WOLFGANG ROSENBERG, p128.

139. This is Ernest Mandel's formula in "Mercantile categories in the period of transition", in Bertram Silverman (ed. & introd.), MAN AND SOCIALISM IN CUBA (New York: Atheneum, 1971), p62.

140. See the respective works by these authors listed in our bibliography

Notes to chapter four

1. "The advantage of seeing in the fluctuations of the average rate of profit the main cause of the succession of long waves, lies in the fact that profit is, after all, what makes the system tick. Simultaneously, under capitalism, it is an excellent synthetic index of the system's overall performance, measured in the light of its own logic... to see in the long-term fluctuations of the average rate of profit the main cause of the long waves is not to substitute one monocausal explanation for another. Rather, it is to find a cause which is determined by a sufficient number of factors - partially interrelated, but partially autonomous from each other - so as to reflect the system's overall modus operandi, while at the same time sufficiently close to the system's heart as to make one understand why changes in that factor can precipitate a change in the way in which the system as a whole grows or does not grow" - Ernest Mandel, "Explaining long waves of capitalist development", in Futures, v13, n4, August 1981, p335.

2. This thesis plays an important role in the Marxist explanation of "development of underdevelopment". But it is also acknowledged by authors like Paul A. Baran, who showed that the 'economic surplus' (accumulation fund) in the so-called developing countries often represents not a lower, but a higher percentage of the national income than in imperialist countries. See Paul A. Baran, THE POLITICAL ECONOMY OF GROWTH (Harmondsworth: Penguin, 1973). "The upper classes who have a surplus do not use it for productive investment, nor are they interested in enterpreneurial activity. They go in for more consumption, either of a luxury type, or involving waste, or having some conspicuousness about it..." (V.K.R.V. Rao, cited in Nancy Baster, DISTRIBUTION OF INCOME AND ECONOMIC GROWTH: CONCEPTS AND ISSUES (Geneva: UNRISD, 1970) p40).

3. See, e.g. Thorstein Veblen, who developed a general theory of history on the concepts "conspicuous consumption" and "conspicuous waste". Veblen graphically described alternatives to productive investment prevalent in the U.S in THE THEORY OF THE LEISURE CLASS: AN ECONOMIC STUDY OF INSTITUTIONS (Rev. ed. New York: New American Library 1953); and in Germany; IMPERIAL GERMANY AND THE INDUSTRIAL REVOLUTION (Second ed. New York: Kelley 1956).

4. Thus, for example, New Zealand's traditionally high credit and investment rating by international financial institutions is often attributed to its social and political stability.

5. Thus the supply-sider Michael K. Evans, architect of the Chase econometric model of the US economy, writes that "Virtually all economists agree that investment depends significantly on the rate of return. Few people would be so foolish as to invest their money in a project if they think they could earn more by investing it elsewhere. If buying a machine or constructing a building is likely to generate only a 10 percent rate of return at a time when government bonds will yield 15 percent, private investment will suffer. Furthermore, if -2 percent or -3 percent looks like the best rate of return that can be earned after taxes and inflation, the would-be investor may decide to go to Las Vegas for the weekend and at least get some enjoyment out of spending his money. More likely, he would use the funds to buy real estate, gold or silver, or other collectibles expected to appreciate in real as well as nominal terms" (Michael K. Evans, THE TRUTH ABOUT SUPPLY-SIDE ECONOMICS (New York: Basic Books, 1983), p110). Although Evans recognises that savings may be put to different uses, he fails to integrate the consequences of this fact into his analysis, because he remains mesmerised by the saving rate. His argument is in fact that higher rates of return are an incentive to save, and a reduction in tax rates will increase the return on savings, thus raising the proportion that is saved. He notes that it is this argument that has "received the heaviest broadside from conventional Keynesians". The theme throughout the book is that supply-side programmes must be used correctly to "shift resources from consumption to investment" (ibid., p. 245).

6. In a fairly sophisticated discussion, W. Arthur Lewis frames the terms of economic debate as follows: '... investment is necessary to economic growth. From this it follows, in a passive sense, that saving is necessary to growth, because investment has to be matched by saving. It nevertheless remains open to ask whether the process of investment will not automaticaly create all the savings that is required, so that we need not worry about the level of savings, and can concentrate on investment. We can also go further and ask whether saving may not discourage investment, by destroying the market for goods, so that it is better to encourage people to spend than to save. These questions have been askerd for a long time...' (W. Arthur Lewis, THE THEORY OF ECONOMIC GROWTH. London: George Allen & Unwin, 1955, p213-214). The inability of bourgeois economists to distinguish between the source and distribution of profits is subjected to strong criticism by Marx, CAPITAL VOLUME THREE, Part seven: "Capital-profit (or better still capital-investment), land-ground rent, labour-wages, this economic trinity as the connection between the components of value and wealth in general and its sources, completes the mystification of the capitalist mode of production, the reification of social relations, and the immediate coalescence of the material relations of production

with their historical and social specificity: the bewitched, distorted and upside-down world haunted by Monsieur le Capital and Madame la Terre, who are at the same time social characters and mere things" (p969).

7. Consequently the concept of production used for social accounting purposes is extended to cover all activities that generate, or could generate income, except for the most obvious unilateral transactions in which individuals or institutions receive 'something for nothing'.

8. Given that the individual is the basic unit of bourgeois economic analysis, these extra-economic explanations most often take the form of psychological explanations, including reference to 'national psychologies'. See e.g. W.W. Rostow, THE STAGES OF ECONOMIC GROWTH (Cambridge: Cambridge University Press, 1962).

9. Virtually all introductory university texts on economics use this simple accounting concept of profit. When it comes to explaining the origins or determination of profits, however, a variety of explanations is offered. "An eclectic explanation, however, is really no explanation, for eclecticism flourishes by mixing opposing and even contradictory elements; a consistent, unified theory is thereby precluded. The dimension of this eclecticism and the confusion it creates is illustrated by the usual textbook smorgasbord offered to students of economics. Profit is to be regarded as any of the following: implicit rent, interest, and wages; reward for innovation; payment for risk-bearing; the residual in a world of uncertainty; the earnings of monopoly; and the exploitation of labour in the Marxian framework" - Mark Obrinsky, PROFIT THEORY AND CAPITALISM (Oxford: Martin Robertson, 1983), p2.

10. See, in addition to Obrinski, Michael Howard, PROFITS IN ECONOMIC THEORY (London: Macmillan, 1983).

11. See Karl Marx, CAPITAL VOLUME THREE.

12. Karl Marx, CAPITAL VOLUME ONE, chapter one.

13. Karl Marx, CAPITAL VOLUME THREE, (Moscow: Progress, 1977), p134.

14. "The purchase of labour-power for a fixed period is the prelude to the production process; and this prelude is constantly repeated when the period of time for which the labour-power has been sold comes to an end, when a definite period of production, such as a week or a month, has elapsed. But the worker is not paid until after he has expended his labour-power and produced a certain quantity of surplus-value in the shape of commodities. He has, therefore, produced not

only surplus-value... but also the variable capital, the fund out of which he himself is paid, before it flows back to him in the shape of wages; and his employment lasts only so long as he continues to reproduce this fund. This is the reason for the formula of the economists... which presents wages as a share in the product itself. What flows back to the worker in the shape of wages is a portion of the product he himself continually reproduces... while he is converting a portion of the means of production into products, a portion of his former product is being turned into money. It is his labour of last week, or of last year, that pays for his labour-power, this week or this year... The capitalist class is constantly giving to the working class drafts, in the form of money, on a portion of the product by the latter and appropriated by the former. The workers give these drafts back just as constantly to the capitalists, and thereby withdraw from the latter their allotted share of their own product" (Marx, CAPITAL VOLUME ONE, pp712-13).

15. Marx, CAPITAL VOLUME ONE, chapter six.

16. "The total portion of commodity value, therefore, in which the total labour that the worker adds during a day or a year is realised, the total value of the annual product that this labour creates, breaks down into... necessary labour, by which the worker creates the portion of the product's value with which he is paid himself, i.e. wages, and unpaid surplus-labour, by which he creates the portion of the product's value that represents surplus-value... Besides this labour, the worker performs no other, and besides the total value of the product, which assumes the forms of wages, profit and rent, he creates no other value... The part of the constant capital that has been completely used up in production must be replaced in kind. Taking all other factors as unchanged, and particularly the productivity of labour, the same amount of labour is required to replace it as before, i.e. it must be replaced by an equivalent value. But who is to perform this labour, and who does perform it ? As far as the first problem is concerned - who is to pay for the constant portion of value contained in the product, and with what ? - it is assumed that the value of the constant capital that has gone into production reappears as a component of the product's value. This does not contradict the premises of the second problem. For we have already shown... how when new labour is added, even though it does not reproduce the old value, but simply makes an addition to it, only creating additional value, the old value is still preserved in the product; and that this happens not by virtue of the value-creating characteristic of labour, i.e. not because it is labour in general, but rather in its function as a specific kind of productive labour. No additional labour was needed, therefore, to perpetuate the value of the constant component in the product on which the

revenue, i.e. the total value created during the year, is spent. But additional labour is needed to replace the constant capital consumed during the previous year, in value and in use-value, since without this replacement no reproduction is possible at all" (CAPITAL VOLUME THREE, pp973, 974-5) It must be stressed that our definition of necessary and surplus-labour is from the standpoint of total social capital. Marx notes in his discussion of the reproduction and circulation of total social capital that "The surplus product, the repository of surplus-value, does not cost anything to its appropriators... They do not have to advance either money or commodities in any form in order to receive it... What the capitalists advance, therefore, is nothing more than their constant and variable capital. The worker does not merely maintain their constant capital by way of a corresponding portion of value newly created in the form of commodities; he also supplies them, by his surplus labour, with a surplus-value existing in the form of a surplus product. By their subsequent sale of this surplus product, the capitalists form their hoard, additional potential money capital" (CAPITAL VOLUME TWO, p572; cf. pp461-62). It is on this basis that Marx analyses the process of capital's movement as a whole: "The value of any commodity C produced in the capitalist manner can be depicted by the formula C = c + v + s. If we subtract from the value of this product surplus-value s, there remains a mere equivalent or replacement value in commodities for the capital value c + v laid out on the elements of production" (CAPITAL VOLUME THREE, p117; Cf. THEORIES OF SURPLUS VALUE, v3, p247).

17. "The capitalist's profit, therefore, comes from the fact that he has something to sell for which he has not paid. The surplus-value or profit consists precisely in the excess of commodity value over its cost price, i.e. in excess of the total sum of labour contained in the commodity over the sum of labour that is actually paid for. The surplus-value, from wherever it may derive, is consequently an excess over and above the total capital advanced" - CAPITAL VOLUME THREE, p113.

18. If, for example, commodities cannot be sold then all the labour expended in producing them is wasted labour. See Ernest Mandel, MARXIST ECONOMIC THEORY (London: Merlin Press, 1968), p161.

19. "That part of capital, therefore, which is turned into means of production, i.e. the raw material, the auxiliary material and the instruments of labour, does not undergo any quantitative alteration of value in the process of production. For this reason, I call it the constant part of capital, or more briefly, constant capital. On the other hand, that part of capital which is turned into labour-power does undergo an

alteration of value in the process of production. It both reproduces the equivalent of its own value and produces an excess, a surplus-value, which may itself vary and be more or less according to the circumstances. This part of capital is continually being transformed from a constant into a variable magnitude. I therefore call it the variable part of capital, or more briefly, variable capital" - CAPITAL VOLUME ONE, p317.

20. "While productive labour is changing the means of production into constituent elements of a new product, their value undergoes a metempsychosis. It deserts the consumed body to occupy the newly created one. But this transmigration takes place, as it were, behind the back of the actual labour in progress. The worker is unable to add new labour, to create new value, without at the same time preserving old values, because the labour he adds must be of a specific useful kind, and he cannot do work of a useful kind without employing products as the means of production of a new product, and thereby transferring their value to the new product. The property therefore which labour-power in action, living labour, posssesses of preserving value, at the same time that it adds it, is a gift of nature which costs the worker nothing, but it is very advantageous to the capitalist, since it preserves the existing value of his capital. As long as trade is good, the capitalist is too absorbed in making profits to take notice of this gratuitous gift of labour. Violent interruptions of the labour process, crises, make him painfully aware of it" - CAPITAL VOLUME ONE, p315.

21. "Economy of time, to this all economy ultimately reduces itself" - GRUNDRISSE, p173.

22. "The value of a commodity is certainly determined by the quantity of labour contained in it, but this quantity is itself socially determined. If the amount of labour-time socially necessary for the production of any commodity alters - and a given weight of cotton represents more labour after a bad harvest than a good one - because they are only individuals of the same species, and their value at any given time is measured by the labour socially necessary to produce them, i.e. by the labour necessary under the social conditions existing at the time... If, as a result of a new invention, machinery of a particular kind can be produced with a lessened expenditure of labour, the old machinery undergoes a certain amount of depreciation, and therefore transfers proportionately less value to the product. But here, too, the change in value originates outside the process in which the machine is acting as a means of production. Once engaged in this process, the machine cannot transfer more value than it possessed independently of the process" - CAPITAL VOLUME ONE, p318.

23. The multi-dimensional category of socially necessary labour advanced in this study is that used by Marx in the second and third volume of CAPITAL, and defended by marxist scholars working in the classical tradition. See e.g. Isaac Illich Rubin, ESSAYS ON MARX'S THEORY OF VALUE (Detroit: Black & Red, 1972), particularly chapter seventeen; Roman Rosdolsky, THE MAKING OF MARX'S CAPITAL (London: Pluto, 1980); and Ernest Mandel, "On socially necessary labour", note to the second edition of his INTRODUCTION TO MARXIST ECONOMIC THEORY (New York: Pathfinder Press, 1973), pp5-6.

24. "...even if an individual article, or a definite quantity of of one kind of commodity, may contain simply the social labour required to produce it, and as far as this aspect is concerned, the market value of this commodity represents no more than the necessary labour, yet if the commodity in question is produced on a scale that exceeds the social need at the time, a part of the society's labour-time is wasted, and the mass of commodities in question then presents on the market a much smaller quantity of social labour than it actually contains" - Marx, CAPITAL VOLUME THREE, p288.
"...the value of a given commodity is determined only by that portion of labour spent in its production which corresponds to the social average (both the average productivity of labour and the average socially recognised need), that is to say, which is recognised by society as socially necessary labour. Labour expended in the production of a given commodity, but not recognised by society, is not productive of value for the owner of that commodity" - Ernest Mandel, "Introduction" to CAPITAL VOLUME TWO, p39.

25. The general conditions for equilibrium are investigated by Marx in CAP2. See also Kenneth J. Tarbuck (ed.), THE ACCUMULATION OF CAPITAL - AN ANTI-CRITIQUE, BY ROSA LUXEMBURG/IMPERIALISM AND THE ACCUMULATION OF CAPITAL, BY NIKOLAI I. BUKHARIN (New York: Monthly Review Press, 1972) and for a more mathematical treatment, Shinzaburo Koshimura, THEORY OF CAPITAL REPRODUCTION AND ACCUMULATION, ed. Jesse G. Schwartz (Kitchener, Ontario: DPG Publishing Co., 1975).

26. See Marx, CAPITAL VOLUME TWO, chapters twenty and twenty-one.

27. "Marx's reproduction schemes play a closely defined and specific role in his analysis of capitalism, and they are designed to solve a single problem and no other. Their function is to explain... how... a system based on exchange-value, that only functions for the sake of profit and regards the specific use-values of the commodities produced as a matter of indifference to it, [can] nonetheless assure the material elements of the reproduction process which are determined precisely by their specific use-value - in other words, [they are constructed in answer to the question:] how

can it at least for a time 'spontaneously' overcome the antinomy between exchange-value and use-value ? The function of the reproduction schemes is thus to prove that it is possible for the capitalist mode of production to exist at all" - Ernest Mandel, LATE CAPITALISM, p.

28. "If five million workers work 2,000 hours a year in material production, the total value product is ten billion hours, independently of whether the socially recognised value of each individual commodity is equal to, or larger or smaller than, the actual number of labour hours expended in its production. It follows that if the value of a given commodity is less than the actual labour expended on its production, then there must be at least one other commodity whose value is greater than the quantity of labour actually embodied in it" - Ernest Mandel, "Introduction" to CAPITAL VOLUME TWO, p39.

29. "Today, the [weavers'] product satisfies a social need. Tomorrow it may perhaps be expelled partly or completely from its place by a similar product... Let us assume, however, that the use-value of the product maintains itself, and that the commodity therefore attracts money. Now we have to ask: how much money ? No doubt the answer is already anticipated in the price of the commodity, which is the exponent of the magnitude of its value. We leave out of consideration here any possible subjective errors in calculation by the owner of the commodity, which will immediately be corrected objectively in the market. We suppose him to have spent on his product only the average socially necessary quantity of labour-time. The price of the commodity, therefore, is merely the money-name of the quantity of social labour objectified in it. But now the old established conditions of production in weaving are thrown into the melting pot, without the permission of, and behind the back of, our weaver. What was yesterday undoubtedly labour-time socially necessary to the production of a yard of linen ceases to be so today, a fact which the owner of money is only too eager to prove from the prices quoted by our friend's competitors. Unluckily for the weaver, people of his kind are in plentiful supply. Let us suppose, finally, that every piece of linen on the market contains nothing but socially necessary labour-time. If the market cannot stomach the whole quantity at the normal price of 2 shillings a yard, this proves that too great a portion of the total social labour-time has been expended in the form of weaving. The effect is the same as if each individual weaver had expended more labour-time on his particular product than was socially necessary. As the German proverb has it: caught together, hung together... We have seen, then that commodities are in love with money, but that 'the course of love never did run smooth'. The quantiative articulation of society's productive organism, by which its scattered elements are integrated into the division of labour, is as haphazard and spontaneous as its

qualitative articulation" - Marx, CAPITAL VOLUME ONE, pp201-02.

30. See CAPITAL VOLUME THREE, chapters 9 and 10.

31. "In the final analysis", because there are of course many more variables and mediations involved. See, for Marx's category of the organic composition of capital, CAPITAL VOLUME ONE, pp762-63 and CAPITAL VOLUME THREE, pp244-45.

32. See Ernest Mandel, MARXIST ECONOMIC THEORY pp306-308; Ernest Mandel, "Introduction" to CAPITAL VOLUME TWO, pp48-49.

33. "Profit... as the profit of capital as such, not of an individual capital at the expense of another, but rather as the profit of the capitalist class, concretely expressed, can never be greater than the sum of surplus-value" - Marx, GRUNDRISSE, p767. Anwar Shaikh disagrees - see "The transformation from Marx to Sraffa", in Ernest Mandel and Alan Freeman (eds.), RICARDO, MARX, SRAFFA (London: Verso, 1984), esp. pp52-59.

34. "The composition of capital is to be understood in a twofold sense. As value, it is determined by the proportion in which it is divided into constant capital, or the value of the means of production, and variable capital, or the value of labour-power, the sum total of wages. As material, as it functions in the process of production, all capital is divided into means of production and living labour power. This latter composition is determined by the relation between the mass of means of production employed on the one hand, and the mass of labour necessary for their employment on the other. I call the former the value-composition, the latter the technical composition of capital. There is a close relation between the two. To express this, I call the value-composition of capital, insofar as it is determined by the technical composition and mirrors changes in the latter, the organic composition" - CAPITAL VOLUME ONE, pp761-62. "The relationship [i.e. the technical composition] depends on technical conditions and is to be taken as given, at any particular stage of development of productivity. A certain quantity of labour-power, represented by a certain number of workers, is required to produce a certain volume of products in a day, for example, and this involves putting a certain definite mass of the means of production in motion and consuming them productively - machines, raw materials, etc. A definite number of workers corresponds to a definite amount of labour already objectified in means of production. This proportion can vary greatly between different spheres of production and often between different branches of one and the same industry, although it may also happen to be the same in branches of industry that are far apart... But it is possible for the proportion to be

the same in different branches of industry, only insofar as variable capital serves simply as an index of labour power, and constant capital is an index of the volume of means of production that labour power sets in motion. Certain operations in copper or iron, for example, may involve the same proportion between labour-power and means of production. But because copper is dearer than iron, the value-relationship between variable and constant capital will be different in each case, and so therefore will be the value-composition of the two capitals taken as a whole. The distinction between technical composition and value-composition shows itself in every branch of industry by the way the value-relationship between the two portions of capital may change, while the technical composition remains constant, whereas, with the changed technical composition, the value-ratio may remain the same; the latter, of course, happens only if the change in the proportion of quantities of means of production and labour power applied is cancelled out by an opposite change in their values" - CAPITAL VOLUME THREE, p245.

35. These 'steps' can give rise to 'monopoly rents' as Mandel shows in MARXIST ECONOMIC THEORY, chapter 12.

36. The complexities of the determination of variable capital (wages) are investigated by Marx in CAPITAL VOLUME ONE, chapters 17 and 19-22. Marx's multi-causal approach, integrating all manner of historical, geographical and other circumstances, is illustrated in the following passage: "Between 1849 and 1859, for instance, agricultural wages rose in England in consequence of a combination of overwhelming circumstances, such as the exodus from Ireland, which cut off the supply of agricultural labourers from there; the exceptional absorption of the agricultural population by manufacturing industry; the war-time demand for soldiers; an exceptional emigration to Australia and the Unites States (California); and other reasons that we cannot go into any further here" - CAPITAL VOLUME THREE, p766.

37. The same that applies to Marx's reproduction schemas also applies to our models. For an interesting discussion of attempts to use reproduction schemas to prove the inevitability of a capitalist collapse, see Anton Pannekoek, "The theory of the collapse of capitalism", in Capital & Class, n1, Spring 1977, pp59-81.

38. "Just as the heavenly bodies always repeat a certain movement once they have been flung into it, so also does social production, once it has been flung into this movement of alternate expansion and contraction. Effects become causes in their turn, and various vicissitudes of the whole process, which always reproduces its own conditions, take on the form of periodicity" - CAPITAL VOLUME ONE, p786.

39. See, in particular, Ernest Mandel, LATE CAPITALISM, chapter 3.

40. For a brief overview of different crisis theories, see Ernest Mandel, "Introduction" to CAPITAL VOLUME THREE, pp38-53; and Makoto Itoh, "Marxian Crisis Theories", in Bulletin of the Conference of Socialist Economists, v4, v1, February 1975; Anwar Shaikh, "An introduction to the history of crisis theories", in Union for Radical Political Economics, US CAPITALISM IN CRISIS (New York: Economics Education Project, 1978), pp219-241; David S. Yaffe, "The Marxist theory of crisis, capital and the state", in Economy and Society, v2 n2, May 1973.

41. "With the whole of capitalist production, it always only and in a very intricate and approximate way, as an average of perpetual fluctuations, which can never be firmly fixed, that the general law prevails as the dominant tendency" - CAPITAL VOLUME THREE, p261.

42. This imperative receives detailed discussion in Isaac I. Rubin, ESSAYS ON MARX'S THEORY OF VALUE (Detroit: Black & Red, 1972).

43. "...in the society where the capitalist mode of production prevails, anarchy in the social division of labour and despotism in the manufacturing division of labour mutually condition each other..." - CAPITAL VOLUME ONE, p477. "The capitalist mode of production which enforces economy in each individual business, also begets, by its anarchistic system of competition, the most outrageous squandering of labour power and of the social means of production, not to mention the creation of a vast number of functions at present indispensible, but in themselves superfluous" - Ibid., p667.

44. Scitovsky, for example, argues that "a person has competition if the party he wants to trade with has alternative opportunities of exchange... Competitive bargaining is a common form of trade... The art of skillful bargaining was an essential accomplishment of the housewife, who had to bargain in her daily purchases of meat and vegetables just as much as when she bought finery". Tibor Scitovsky, WELFARE AND COMPETITION, pp14-16.

45. For an interesting discussion of competition under capitalist and post-capitalist conditions, see Isaac Deutscher, "'Socialist Competition'", in his HERETICS AND RENEGADES AND OTHER ESSAYS (London: Hamish Hamilton, 1955), pp131-150. Sociologists frequently deny the very possibility of laws of social and historical development. This denial is usually based on misconceived ideas about causality and causal relations. See Mario Bunge, CAUSALITY AND MODERN SCIENCE (New York: Dover Publications, 3rd rev. ed., 1979).

46. See Ernest Mandel, MARXIST ECONOMIC THEORY, pp434-437.

47. For the various arguments, see John Scott, CORPORATIONS, CLASSES AND CAPITALISM (London: Hutchinson, 1979).

48. This was already shown in detail by Rudolf Hilferding in 1910. See his FINANCE CAPITAL (London: Routledge & Kegan Paul, 1982).

49. "...the value of labour-power constitutes the conscious and explicit foundation of the trade unions, whose importance for the English working class can scarcely be overestimated" - CAPITAL VOLUME ONE, p1069.

50. See Ernest Mandel, LATE CAPITALISM, p206f.

51. Ibid., chapter 5.

52. See the sources in note 40.

53. Ibid.

54. Ernest Mandel, THE SECOND SLUMP (London: Verso, 1980), pp178-79.

Notes to chapter Five

1. "The real secret of the 'forgetfulness' of most modern Marxist authors is their rejection of Marx's labour theory f value, either explicitly, or implicitly through their reduction of it to a purely formal structure which gives 'revolutionary' sociological flavour to the concrete categories of orthodox theory... Of course, adjustments are made to official data, to exclude profits from abroad, to adjust for taxes, etc. But by and large, the basic correspondence between the concrete orthodox categories and the abstract Marxist ones remains unquestioned" - Anwar Shaikh, "National Income Accounts and Marxian Categories" (unpublished paper, New York: New School for Social Research, December 1978), p2.

2. Commenting on Eduard Bernstein's use of statistical material and Kautsky's critique of it, a contemporary observer noted "Kautsky has proven that Bernstein's statistics do not prove his assertions. The reason is that Bernstein handles his statistics unintelligently. But even Kautsky's intelligent handling could not make them yield any great results because of the incompleteness of our statistics and of the lack of intelligence of their gathering. Hence the general dissatisfaction on both sides with statistics" - Louis B. Boudin, THE THEORETICAL SYSTEM OF KARL MARX IN THE LIGHT OF RECENT CRITICISM (Chicago: Charles Kerr & Co., 1912), p174. "The most widely used, and most fallacious, method in the realm of social phenomena is to tear out individual minor facts and juggle with examples. Selecting chance examples presents no difficulty at all, but is of no value, or of purely negative value, for in each individual case everything hinges on the historically concrete situation. Facts, if we take them in their entirety, in their interconnection, are not only stubborn things, but undoubtedly proof-bearing things... The inference is clear: we must seek to build a reliable foundation of precise and indisputable facts that can be confronted to any of the 'general' or 'example-based' arguments now so grossly misused in certain countries. And if it is to be a real foundation, we must not take individual facts, but the sum total of facts, without a single exception, relating to the question under discussion. Otherwise there will be the inevitable, and fully justified, suspicion that the facts were selected or compiled arbitrarily, that instead of historical phenomena being presented in objective interconnection and interdependence and treated as a whole, we are presenting a 'subjective' concoction to justify what might prove to be a dirty business... Proceeding from these considerations, we have decided to begin with statistics, fully aware of course that statistics are deeply antipathetic

to certain readers, who prefer 'flattering deception' to 'base truths', and to certain authors, who are prone to smuggling political contraband under cover of 'general' disquisitions about internationalism, cosmopolitanism, nationalism, patriotism, etc." - Lenin, LENIN COLLECTED WORKs, v23, pp272-73. Lenin, like Trotsky, was an accomplished statistician. See Brian H. Easton, "Lenin as a Statistician", in New Zealand Statistician v8, May 1973. In a report to the 5th World Congress of the Fourth International October 1957, Michel Pablo emphasised the very real problems posed by official statistics for revolutionary marxists: "The difficulties of a deep-going economic analysis stem from the complexity of the subject, which is determined by a multitude of factors in constant interaction between politics and economics; and further from the inadequacy of economic documentation, both in the capitalist and in the Soviet world. The inadequacy of capitalist economic documentation is quite explicable. What is far more surprising is that after 40 years of the Russian revolution Soviet economic science has not reached the point of being able to make up for this lack -which is explicable by the observation that Soviet economic science has become the handmaiden of the opportunist policy of the Soviet bureaucracy. That is how, for example, Comrade Varga has become a specialist in forecasting, now crises, now lulls, according to which was at any moment in the interest of the policy of the Soviet bureaucracy. Statistics can be made to say anything one wishes: it suffices to choose the figures in a certain way and to interpret them in a certain manner. Our movement, with its very limited means, can naturally not be required to make up for the inadequacy in this field. For our documentation we are obliged to dip into what exists in economic documentation from either capitalist or Soviet sources. And yet this work of deep-going economic analysis is absolutely necessary, not only for general and international political perspectives, but also for the day-to-day work of every working-class organisation. For example, it is not possible for a revolutionary organisation to settle on a correct trade-union tactic without having quite a deep-going understanding of the economic conjuncture which by its changes determines both this or that character of the struggles, and the chances of their success or failure" -"Report presented by Comrade Michel Pablo", in Fourth International (Paris), n1 Winter 1958, p13.

3. See, for some examples, the 'epistemological discourse' in Anthony Cutler et al., MARX'S 'CAPITAL' AND CAPITALISM TODAY, 2v (London: Routledge & Kegan Paul, 1977) and classic Stalinist textbooks on "marxist political economy".

4. As Shaikh (op. cit.) notes, Glyn & Sutcliffe, Hodgson, Boddy & Crotty, and Rowthorn all equate the profit-wage ratio with the rate of surplus-value; Glyn & Sutcliffe and Hodgson explicitly

equate the capital-output ratio with the organic composition of capital. See Andrew Glyn & Bob Sutcliffe, BRITISH CAPITALISM, WORKERS AND THE PROFIT SQUEEZE (Harmondsworth: Penguin, 1972); Geoff Hodgson, "The theory of the falling rate of profit", in New Left Review n84 1974; R. Boddy & J. Crotty, "Class conflict, Keynesian politics and the business cycle", in Monthly Review, October 1974; R. Boddy & J. Crotty , "Class conflict and macro-policy: the political business cycle", in Review of Radical Political Economics, v7 n1, 1975; Bob Rowthorn, "'Late Capitalism'", in New Left Review, n98 July-August 1976, reprinted in Bob Rowthorn, CAPITALISM, CONFLICT AND INFLATION (London: Lawrence & Wishart, 1980). For a theoretical marxist critique of Glyn & Sutcliffe, see David Yaffe, "The crisis of profitability: a critique of the Glyn-Sutcliffe thesis", in New Left Review, n80 July-August 1973, p45-62.

5. There is now a growing body of marxian literature which, for better or worse, tests Marx's value-theory against hard facts. Most items came to our attention only after we completed our own precisions, and many are not published or not accessible to us. In addition to the references cited above, see (among others) Joseph Gillman's pioneering work THE FALLING RATE OF PROFITS (New York: Cameron, 1958); Shane Henry Mage, "The 'law of the falling tendency of the rate of profit'; its place in the Marxian system and relevance to the US economy" (Unpublished Phd dissertation, Columbia University, 1963); Robert Langston, "USA: the delcining basic rate of profit in manufacturing since 1969 signals the end of the third technological revolution", in Inprecor (Paris/Brussels), n27/28, 5 June 1975, pp33-39; E.N. Wolff, "Capitalist development, surplus value and reproduction: an empirical examination of Puerto Rico", in Jesse Schwartz, THE SUBTLE ANATOMY OF CAPITALISM (Santa Barbara: Goodyear Publishing Co., 1977); E.N. Wolff, "The rate of surplus-value, the organic composition, and the general rate of profit in the U.S. Economy 1947-67", in American Economic Review, June 1979; Thomas E. Weisskopf, "Marxian crisis theory and the rate of profit in the post-war U.S, economy", in Cambridge Journal of Economics, v3 1979, pp341-378; Alice H. Amsden, "An international comparison of the rate of surplus-value in manufacturing industry", in Cambridge Journal of Economics, v5 1981 pp229-249; Andrew M. Senchak, "United States capital accumulation, 1963-77" (Unpublished Phd dissertation, Columbia University, 1983); Roger A. Odisio, "Falling profit rates and _ising surplus; alternative marxian theories about the secular decline of capitalism as they apply to the United States since World War II" (Unpublished Phd dissertation, The American University, 1984); Julie Graham, "Economic restructuring in the United States, 1958-1980: theory and identification" (Unpublished Phd dissertation, Clarke University 1984); Gerard Dumenil, Mark Glick & Jose Rangel, "The tendency of the rate

of profit to fall in the United States, Part 1", in Contemporary Marxism, n9 Autumn 1984, pp148-164; Fred Mosely, "The rate of surplus-value in the post-war U.S. economy: a critique of Weisskopf's estimates", in Cambridge Journal of Economics, v9 1985, pp57-79; Angelo Reati, "The rate of profit and the organic composition of capital in the post-1945 long wave; the case of British industry from 1959 to 1981", in Review (Fernand Braudel Centre), v9 n4 Spring 1986, pp515-571.

6. According to a self-styled marxist, "Scientific discourse refers to objects... that are not objects of immediate human experience and do not appear to be reducible to such objects" - Barry Hindess, THE USE OF OFFICIAL STATISTICS IN SOCIOLOGY; A CRITIQUE OF POSITIVISM AND ETHNOMETHODOLOGY (London: Macmillan, 1973), p51. Similarly in a collective work with Paul Hirst, Athar Hussain and Anthony Cutler, he writes "Marx's conception of method is systematically anti-positivist, it contains a radical rejection of the validity of any knowledge which works through the forms of experience" - Anthony Cutler et al., MARX'S 'CAPITAL' AND CAPITALISM TODAY, v2 (London: Routledge & Kegan Paul, 1977), p119. But as Trotksy points out, for marxists the 'experience' they seek to explain cannot be confined to a narrow positivist definition. "'We do not know anything about the world except what is provided through experience'. This is correct, if one does not understand experience in the sense of the direct testimony of our individual five senses. If we reduce the matter to experience in the narrow empiricist sense, then it is impossible for us to arrive at any judgement concerning either the origin of the species or, still less, the formation of the earth's crust. To say that the basis for everything is experience is to say too much or to say nothing at all. Experience is the active interrelationship between subject and object. To analyse experience outside this category, i.e. outside the objective material milieu of the investigator who is counterposed to it and who from another standpoint is part of this milieu - to do this is to dissolve experience in a formless unity where there is neither object nor subject but only the mystical formula of experience. 'Experiment' or 'experience' of this kind is peculiar only to a baby in its mother's womb, but unfortunately the baby is deprived of the opportunity to share the scientific conclusions of its experiment" - Leon Trotsky, "Dialectics and the imutability of the syllogism", in WRITINGS OF LEON TROTSKY 1939-40 (New York: Pathfinder, 2nd edn. 1973), p403. Marx rarely stated his general approach to science better than in his famous letter to Arnold Ruge (September 1843), where he remarked that one had to confront the world "not as doctrinaires with a new principle: 'Here is the truth, bow down before it !'" but "develop new principles to the world out of its own principles [i.e. laws of motion]". We do not say to the world: 'Stop fighting; your struggle is of no account. We want to shout

the true slogan of the struggle at you'. We only show the world what it is really fighting for, and consciousness is something that the world must acquire, like it or not. The reform of consciousness consists only in enabling the world to clarify its consciousness, in waking it from its dream about itself, in explaining to it the meaning of its own actions".

7. Starting with Marx, who made good use of the famous blue books in his Capital.

8. There is an odd contradiction in Bullock and Yaffe's analysis of the long boom (see David Yaffe & Paul Bullock, "Inflation, the crisis and the post-war boom", in Revolutionary Communist, n3/4 November 1975). They argue that "since price necessarily deviates from value, because it is impossible to distinguish all productive and unproductive labour empirically, and due to the international movement of capital as well, the rate of profit in the marxist sense cannot be measured. A better indicator of the tendencies of profitability than those given would attempt in some way to distinguish between productive and unproductive labour in measuring the 'rate of profit'" (p12 n48). Undoubtedly they are right in believing that a 'perfect' measurement of the rate of profit technically cannot be obtained. But no scientific measurement is ever 'perfect' and to assume its possibility is a positivist error. In any case, Marx's argument about the centrality of the rate of profit is that it guides the behaviour of investors. If so, then investors must have a good working knowledge of the approximate rate of profit, in however fetished or crude form this knowledge may be expressed. As Marx explains in his theory of commodity fetishism, the consciousness of capitalists is also a function of the law of value under capitalism, even if their investment decisions often produce unintended effects. The point in calculating the marxian rate of profit is obviously not to quantify exactly some 'hidden' rate which cannot be observed even in its effects, and which departs radically from investors' judgements. It is rather to explain why rates of profit (and thereby investors' judgements) change over time, i.e. how the law of value concretely operates and manifests itself. If the movement of the observable rate of profit is not assumed to correspond, at least in the longer term, to the movement of the real rate of profit, Marx's theory must be judged metaphysical and a waste of time. Ironically, after a lot of theoretical ostentation, Yaffe and Bullock rely on crude data borrowed from Glyn & Sutcliffe, Mandel and publications of Governments and financial institutions to clinch their arguments.

9. Ernest Mandel uses official data and academic studies by bourgeois researchers freely in LATE CAPITALISM, THE SECOND SLUMP and his half-yearly conjuncture studies. Similarly Eugene Varga interpreted official data in quarterly

conjuncture studies for the Communist International through the 1920's. These were published in issues of the Comintern periodical International Press Correspondence, and consolidated in pamphlets. See for example Eugene Varga, THE DECLINE OF CAPITALISM (London: Communist Party of Great Britain, 1924).

10. While there is no a priori reason rendering this project impossible, in chapter six it is shown a posteriori that a 'ready reckoner' of this type is not feasible, at least not under New Zealand conditions - since no consistent margin of deviation exists between official national income aggregates and marxian aggregates.

11. Principal national income aggregates for the world economy are calculated by United Nations researchers. See United Nations, YEARBOOK OF NATIONA ACCOUNTS STATISTICS 1982; ANALYSIS OF MAIN AGGREGATES (New York: United Nations, 1985).

12. See Jurriaan Bendien, "The crisis of late capitalism and the self-education of the working class in New Zealand", Phd dissertation, Education department, Canterbury University.

13. According to staff of the national accounts section, New Zealand Department of Statistics (personal communication).

14. THE MARXIAN THEORY OF VALUE, by H.E. Holland MP. A LECTURE FIRST DELIVERED AT VICTORIA COLLEGE, WELLINGTON (PROF. McKENZIE PRESIDING), NOW REVISED AND BROUGHT UP TO DATE (Greymouth: Grey River Argus, 1923).

15. Dr Rob Steven, "Towards a class analysis of New Zealand", in Australian and New Zealand Journal of Sociology, v14 n2, June 1978, pp113-29.

16. Ross Hampton, "The development of New Zealand industrial capital: organic composition and the rate of profit" (Unpublished paper, Sociology Department, University of Auckland, n.d.). This item was brought to our attention by Shane Martin, Sociology Department, University of Auckland. W. "Bill" McAra, LAWS OF THE NEW ZEALAND SOCIALIST REVOLUTION (Waihi: Pioneer Publishers, 1980). McAra and his associates make another attempt to analyse company balance-sheets in WAIHI STRIKE 1912 (Whangamata: Waihi Strike and Evans Memorial Committee, 1986).

17. According to Shaikh's method, non-productive labour is paid out of surplus-value. For the results using the definitions of Steven, Hampton, and Shaikh, see Volume 2, pp425-443.

18. See Anwar Shaikh, "National Income Accounts and Marxian Categories"; Alan Freeman, "'Services' in the National

Accounts", Value National Accounts Group working paper (London, June 1985); Alan Freeman, "Unproductively consumed capital", Value National Accounts Group working paper (London, March 1986). See further Paolo Giussani, "Marxian categories and national income accounts", paper presented to the first international conference of the Value National Accounts Group, London September 1984; Peter Bartelheimer, "Memo on the Discussion on Productive and Unproductive Labour", Value National Accounts Group working paper (Frankfurt, April 1985).

19. Among the purists, we include Yaffe and Bullock. For Hampton's figures, see Hampton, op. cit., p14.

20. Holland, op. cit., pp9-10.

21. McAra, op. cit., p85.

22. Ibid.

23. Steven, op. cit., p115.

24. Steven. op. cit., p121.

25. For a superb empiricial marxist study of domestic labour, see Meg Luxton, MORE THAN A LABOUR OF LOVE; THREE GENERATIONS OF WOMEN'S WORK IN THE HOME (Toronto: The Women's Press, 1980. For various theoretical analyses, see Bonnie Fox (ed.), HIDDEN IN THE HOUSEHOLD: WOMEN AND THEIR DOMESTIC LABOUR UNDER CAPITALISM (Toronto: The Women's Press, 1980).

26. NZOYB 1938, p794.

27. NZOYB 1940, pp593-94 etc.

28. For an account of the history of social security measures, see W.B. Sutch, THE RESPONSIBLE SOCIETY IN NEW ZEALAND (Christchurch: Whitcombe & Tombs, 1971), chapters 5 and 6.

29. NZOYB 1950, p520.

30. NZOYB 1958, p204.

31. NZOYB 1970, p175.

32. NZOYB 1938, pp590-607.

33. NZOYB 1958, p204.

34. NZOYB 1965, p173.

35. Ibid.

36. From 1970 onwards social security and income tax revenue are no longer itemised separately in Government financial

statements.

37. The history of the use and abuse of the social security fund has yet to be written. A cursory examination of the occupational classification of the active population and personal income distributions indicates that it made possible a whole new bureaucratic caste of welfare 'administrators' who, because of their effective control over the allocation of social wage funds, could appropriate fat salaries. The burgeoning administrative hierarchies and high salaries combine to reduce the effective ('net') social wage. The following example illustrates the general point: in a Christchurch girls' home run by the Social Welfare Department, it costs today more than $1000 per week to maintain one child. Yet many children are in care because their families lack the resources to keep them. If only 10% of the funds were 'redistributed' to the parents, the 'social problem' would largely disappear and obviate the need for swarms of social workers, psychiatrists, counsellors, community workers, lawyers, policemen and so forth. (This type of situation is used by right-wing ideologues bent on dismantling the welfare state).

38. See Douglas C. Webber, "Trade unions, the Labour Party and the death of working-class politics in New Zealand", University of Canterbury M.A. thesis in political science, 1976; B.S. Gustafson, "Continuing transformation: the structure, composition and functioning of the New Zealand Labour Party in the Auckland region, 1949-70" (Unpublished Phd dissertation, University of Auckland, 1973); B.S. Gustafson, SOCIAL CHANGE AND PARTY REORGANISATION: THE NEW ZEALAND LABOUR PARTY SINCE 1945 (London: Sage, 1976); B. S. Gustafson, "Labour's lost legions; the second Labour Government 1957-60 and the grassroots part membership in the Auckland region", New Zealand Journal of History, v10 n2, 1976.

40. See Hampton, op. cit., p3 etc.; Holland, op. cit., p9f. Holland is more correct, because in the 1920's the discrepancy between gross and real net wages for most workers was very small.

41. Steven, op. cit., p118.

42. McAra, op. cit., p91.

43. "... the development of the productive power of labour in one branch of production... appears as a condition for a reduction in the value and hence the costs of means of production in other branches of industry..." CAPITAL VOLUME THREE, p174.

44. See Volume 2, p135.

45. Depreciation allowances can also be deliberately falsified to hide profits. See Mandel MARXIST ECONOMIC THEORY p519-20.

46. See Volume 2, p135.

47. Marx explains the distinction as follows: "To the same extent as the value and durability of the fixed capital applied develops with the development of the capitalist mode of production, so does the life of industry and industrial capital in each particular investment develop, extending to several years, say an average of ten years. If the development of fixed capital extends this life, on the one hand, it is cut short on the other by the constant revolutionising of the means of production, which also increases steadily with the development of the capitalist mode of production. This also leads to changes in the means of production: they constantly have to be replaced, because of their moral depreciation, long before they are physically exhausted", Marx CAPITAL VOLUME TWO, p264. Cf. Mandel, MARXIST ECONOMIC THEORY, op. cit. pp154-55.

48. See Volume 2, Appendix 6.c.

49. See Marx, CAPITAL VOLUME ONE, p446.

50. See Volume 2, Appendix 6.c.

51. This accounting principle is not uncontroversial. It might be argued that wage payments to non-productive workers accounted for by us as circulating constant capital are at least in part variable capital - in line with Marx's category of the 'collective worker', in which he includes technicians and managers. See, on this issue, Ernest Mandel, LONG WAVES OF CAPITALIST DEVELOPMENT (Cambridge: Cambridge University Press, 1980), p137 n25; CAPITAL VOLUME ONE, p949, pp1052-55; TSV v1, pp156-157.

52. Steven, op. cit., p.122; David Bedggood, RICH AND POOR IN NEW ZEALAND (Auckland: George Allen & Unwin, 1980) p.70.

53. See Andre Gorz, FAREWELL TO THE WORKING CLASS (London: Pluto, 1982).

54. David Bedggood, op. cit., p70.

55. Ibid., p70-71.

56. Cf. Ernest Mandel, MARXIST ECONOMIC THEORY, p306-07; Ernest Mandel, "Introduction" to CAPITAL VOLUME TWO, p48-49.

57. Hampton, op. cit., p3.

58. Steven, op. cit., p118n.

59. Ernest Mandel stresses that "... the concept of 'gross wages' (i.e. wages before tax) has no meaning in Marxist economic theory. Wages are means of reconstituting the worker's labour power through the purchase of commodities and services. Thus money deducted from the worker's 'gross wage' to help the state buy aeroplanes has nothing at all to do with wages. It is from the outset part of social surplus-value" ("Introduction" to CAPITAL VOLUME TWO, p49-50).

60. Steven, op. cit., p118n.

61. McAra, op. cit., pp86-92.

63. See CAPITAL VOLUME TWO, chapter 16, p369ff; CAPITAL VOLUME THREE, chapter 4; Ernest Mandel, LATE CAPITALISM, chapter 7.

64. Holland and Steven op. cit. Hampton acknowledges that the 'turnover rate of capital... is a 'factor of influence' and argues that this will produce a 'profit rate... lower than that calculated from the capital actually outlaid. Yet, having warned us about the relative independence of the turnover of capital he immediately forgets it himself in his later analysis: 'the rate of surplus value in New Zealand... shows no major fluctuations'[;] that industrial accumulation in the sense of rapidly increasing assets... is not a major feature of New Zealand capitalism (Hampton, op. cit., pp5-6). McAra, op. cit., p93.

65. McAra, op. cit., p93; Hampton, op. cit., p7.

66. Hampton, op. cit., p7.

67. Ibid., p7.

68. Steven, op. cit., p118.

69. Ibid.

Notes to Chapter Six

1. On Marx's theory of the impoverishment of the working class, see the excellent exposition in Roman Rosdolsky, THE MAKING OF MARX'S CAPITAL (London: Pluto, 1980), pp300-312. On the homogenisation of the working class, see Ernest Mandel, "Economics", in David McLellan (ed.), MARX: THE FIRST HUNDRED YEARS (London: Fontana, 1983). "Granted that the number of wage- and salary earners grows more and more, critics state. But the more that mass grows, the more it becomes heterogeneous and unable of united organisation and action. State employees and private-sector workers, productive and unproductive workers, employed and unemployed ones, amel and female wage-earners, young and adult ones... have increasingly divergent and not convergent interests. Therefore, the law of concentration and centralisation of capital, and the law of increasing social polarisation, do not tell us anything about an increasing capacity of the proletariat, even when defined as the sum total of all those compelled to sell the commodity labour power, to overthrow capitalism and to realise a socialist revolution. And some of the critics will even add: on the contrary, the larger the part of the total active population composed of wage- and salary earners, and the greater the heterogeneity of the proletariat, the greater its integration in bourgeois society, and the lower its revolutionary potential... [But t]he main trend, crisscrossed, of course, by several contradictory ones, is that of a growing homogeneity and not a growing heterogeneity of the proletariat as defined above. Today, the differences in income, in lifestyle and consumer habits, in social outlook and perspectives, between manual and intellectual workers, between unskilled workers and clerks or secretaries, between workers in the private sector and state employees, between male and female workers, are less and not greater than fifty or a hundred years ago. The clearest proof of that trend lies in the growth and growing homogeneity of union organisation" - Mandel, op. cit., p201-02. For Marx's statements on the tendency towards increased proletarianisation, see CAPITAL VOLUME ONE, pp763-64, pp1061-62, etc; and the COMMUNIST MANIFESTO. Aggregating the number of wage and salary earners for all countries of the world, Pierre Frank arrived at the following totals: in 1935, there were 212 million wage earners in a world population of 2,500 million; in 1975, there were 564 million in a world population of 3,800 million. Ernest Mandel estimates the world proletariat today at 750 million, excluding agricultural wage earners, or one billion if they are included - in a world population of about 4 billion. See Pierre Frank, HISTOIRE DE L'INTERNATIONALE COMMUNISTE, Tome 2 (Paris: La Breche, 1981), pp902-03; Ernest Mandel, "the

Actuality of Socialism", in Milos Nicolic (ed.), SOCIALISM ON THE THRESHOLD OF THE TWENTY-FIRST CENTURY (London: Verso, 1985), p156.

2. In his pamphlet IMPERIALISM: THE HIGHEST STAGE OF CAPITALISM, Lenin already stressed that "It would be a mistake to believe that this tendency to decay precludes the rapid growth of capitalism. It does not. In the epoch of imperialism, certain branches of industry, certain strata of the bourgeoisie and certain countries betray, to a greater or lesser degree, now one and now another of these tendencies. On the whole, capitalism is growing far more rapidly than before; but this growth is not only becoming more and more uneven in general, its unevenness also manifests itself, in particular, in the decay of countries which are richest in capital (Britain)... In the United States, economic development in the last decades has been even more rapid than in Germany, and for this very reason, the parasitic features of modern American capitalism have stood out with particular prominence" (LCW, v22, pp300-01. "... the deepest foundation of imperialism is monopoly. This is capaitalist monopoly, i.e. monopoly which has grown out of capitalism and which exists in the general environment of capitalism, commodity production and competition, in permanent and insoluble contradiction to this general environment. Nevertheless, like all monopoly, it inevitably engenders a tendency to stagnation and decay. Since monopoly prices are established, even temporarily, the motive cause of technical and, consequently, of all other progress disappears to a certain extent and, further, the economic possibility arises of deliberately retarding technical progress... Certainly, monopoly under capitalism can never completely, and for a very long period of time, eliminate competition in the world market (and this, by the by, is one of the reasons why the theory of 'ultra-imperialism' is so absurd). Certainly, the possibility of reducing the cost of production and increasing profits by introducing technical improvements operates in the direction of change. But the tendency to stagnation and decay, which is characteristic of monopoly, continues to operate, and in some branches of industry, in some branches of industry, in some countries, for certain periods of time, it gains the upperhand" (ibid., p276). From a marxist point of view, the true historical 'index' of capitalist decline is the growing gap between the potential growth enabled by the current level of development of the productive forces and actual growth, i.e the incapacity to generalise new technologies throughout the system. Even abstracting from the additional growth that would ensue from rationally planned production, this gap assumes monstrous proportions in the most advanced capitalist countries. In the USA today, a third of installed productive capacity is permanently unutilised. If one adds to this the unemployed 7.3% or so of the labour force and the physical destruction of

overproduced goods (e.g. 'agrarian surpluses'), the 'decay' is palpably evident.

3. See Ernest Mandel, LATE CAPITALISM (London: Verso, 1978), pp217-222. For Marx's distinction between simple and extended reproduction, see CAPITAL VOLUME ONE, p711; CAPITAL VOLUME TWO, chapters 20 and 21; THEORIES OF SURPLUS-VALUE v3, pp380-81.

4. "The employment of surplus-value as capital, or its reconversion into capital, is called the accumulation of capital (...) Accumulation requires the transformation of a portion of the surplus product into capital" - CAPITAL VOLUME ONE, pp725, 726.

5. On the distinction between maximum and optimum rates accumulation, see Ernest Mandel, MARXIST ECONOMIC THEORY, pp621-630, and pp615-21 for the restrictions on accumulation which derive from capitalist relations of production.

6. For a discussion of some dimensions of capitalist decadence, see Ernest Mandel, LATE CAPITALISM, chapter 18 and passim.

7. Wolfgang Rosenberg, THE MAGIC SQUARE, chapter 2.

8. See CAPITAL VOLUME THREE, chapter 39. Cf. Ernest Mandel, THE SECOND SLUMP, pp140-46.

9. See Warwick Armstrong, "New Zealand: Imperialism, Class and Uneven Development", in Australian and New Zealand Journal of Sociology, v14, n3 (Pt. 2), October 1978; Warwick Armonstrong, "Land, Class, Colonialism: the Origins of Dominion Capitalism", in W.E. Willmott (ed.), NEW ZEALAND AND THE WORLD; ESSAYS IN HONOUR OF WOLFGANG ROSENBERG (Christchurch: University of Canterbury, 1980); Kevin Clements, FROM RIGHT TO LEFT IN DEVELOPMENT THEORY; W. E. Willmott, "Nationalism and social formations", in Nexus, n14, December 1982, pp2-9.

10. See e.g. "Imperialism is an enemy of the NZ working people" in MANIFESTO (Wellington: Workers' Communist League, 1980) pp14-15; "NZ's ties with foreign Imperialism" in THE CONSTITUTION AND PROGRAMME OF THE WELLINGTON MARXIST LENINIST ORGANISATION (Wellington: Wellington Marxist Leninist Organisation, 1979) pp20-22; SUP, OUR COUNTRY OUR FUTURE: A SOCIALIST UNITY PROGRAMME FOR TODAY AND TOMORROW (Auckland: The Socialist Publishing and Distribution Co., 1981); "WCL's 'Three World' Theory sells out NZ working class" in THE THEORY AND PRACTICE OF THE REVOLUTION (Auckland: Communist Party of New Zealand, 1982) pp26-32; The Preparatory Committee for the formation of the Communist Party of New Zealand (Marxist Leninist) - BREAK THE MULTINATIONALS' GRIP ON NEW ZEALAND (Porirua: Struggle Publications, 1985); McAra, "N.Z. An Imperialism or Neo-

colony, chapter 9 of THE LAWS OF THE NEW ZEALAND SOCIALIST REVOLUTION (Waihi: Pioneer Publishers, 1980).

11. For an interesting empirical analysis of the Canadian case, see Steve Moore and Debi Wells, IMPERIALISM AND THE NATIONAL QUESTION IN CANADA (Toronto: privately published, 1975).

12. See e.g.David Bedggood, "New Zealand's semi-colonial development: A Marxist View", in Australian and New Zealand Journal of Sociology, v14, n3 (Pt 2), October 1978; Russell Johnson, "Who controls New Zealand capitalism ? The myth of foreign control", in Socialist Action Review, v2 n1, March 1980.

13. Figures calculated from NZOYB.

14. Calculated using figures given in NZOYB 1963, 1963, p818.

15. On the differences between census and registered unemployment, see "A research note on the relationship between registered unemployment and census unemployment", Labour & Employment Gazette, v29 n2, June 1979, pp6-8; Brendan Thompson & Tony Endres, "The relationship between registered unemployment and census unemployment', Labour & Employment Gazette, v29, n4, December 1979, p16. See also Tony Endres, "Designing unemployment statistics in New Zealand - a case history of political arithmetic (1860-1960), in Australian Economic History Review, v22, 1982, pp151-171. A useful guide to the New Zealand statistical material and research literature on employment and unemployment is Peter Brosnan and Philip S. Morrison (eds.), LABOUR AND EMPLOYMENT RESEARCH IN NEW ZEALAND (Wellington: Industrial relations Centre/Geography Department, Vicoria University of Wellington, 1984).

16. Figures obtained from New Zealand Department of Labour annual reports.

17. Wolfgang Rosenberg, IMPORT CONTROLS AND FULL EMPLOYMENT... OR ELSE ! (Christchurch: New Zealand Monthly Review Society, 1972), p52.

18. Herbert Roth, TRADE UNIONS IN NEW ZEALAND (Wellington: Reed, 1973), pp169-70.

19. Herbert Roth, "The Historical Framework", in John Deeks et al., INDUSTRIAL RELATIONS IN NEW ZEALAND (Wellington: Methuen, 1978), p32.

20. Ibid.

21. Historical series of Labour Party membership figures are available from Louise Overacker, "The New Zealand Labour

Party", in The American Political Science Review, v49, n3, September 1955; and Douglas C. Webber, "Trade Unions, the Labour Party and the Death of Working-class politics in New Zealand", political science MA Thesis, University of Canterbury, 1976; for a combined and extended series, see Jurriaan Bendien, "The crisis of late capitalism and the self-education of the working class in New Zealand", Phd Thesis, University of Canterbury (forthcoming).

22. John Macrae and Keith Sinclair, "Unemployment in New Zealand during the depression of the late 1920's and early 1930's", in Australian Economic History Review, v15, n1, 1975, p44.

23. Roth, TRADE UNIONS IN NEW ZEALAND, p49.

24. See Barry Gustafson, LABOUR'S PATH TO POLITICAL INDEPENDENCE (Auckland: Auckland University Press, 1980). For the syndicalist current, see in particular Herbert Roth, "New Zealand 'Wobblies'", in Here & Now, v2 n6, March 1952. Gustafson provides a very extensive bibliography on the formation of the modern labour movement in New Zealand.

25. See, e.g. THE NEW ZEALAND BOOK OF EVENTS, section 2 "Maori & Pakeha" and section 37 "Women".

26. This was particularly true of the Maori movements.

27. "In [1931] the National Unemployed Workers Movement was formed under communist influence, but by 1934 the NUWM had been largely replaced by the pro-Labour National Union of Unemployed" - Bryce Fraser (ed.), THE NEW ZEALAND BOOK OF EVENTS, p258. For details, see Ian Powell's forthcoming University of Canterbury MA Thesis in history, on the Communist Party of New Zealand 1921-35.

28. Ibid.

29. See Louise Overacker, op. cit.

30. Roth, TRADE UNIONS IN NEW ZEALAND, p169-70; Roth, "The Historical Framework", p32.

31. Roth, TRADE UNIONS IN NEW ZEALAND, p61.

32. Ibid., pp61-62, p64f.

33. Ibid., p78.

34. Ibid., pp74-75.

35. Ibid., pp80-81.

36. Ibid., p75.

37. Ibid., p78.

38. See issues of People's Voice during this period. Walter Nash's disclaimer is cited in Roth, TRADE UNIONS IN NEW ZEALAND, p83.

39. Cited in J.V.T. Baker, WAR ECONOMY (Wellington: Department of Internal Affairs, 1965), p551.

40. See B. S. Gustafson "Labour's lost legions, The Second Labour Government 1957-60 and the grassroots Party membership in the Auckland region" N.Z. Journal of History, v10, n2 1976.

41. Marx, WAGES, PRICE AND PROFIT, in MARX-ENGELS SELECTED WORKS v2, p72.

42. "The factor theory avers that one privileged factor - economics -determines all other factors: the state, law, art, politics, morals. In so doing it avoids the question of how the social whole, i.e. society as an economic formation, originates and is formed. It takes its formation for granted, as a given fact, as an uninvolved external form or arena in which the one privileged factor determines all the others. By contrast, materialist theory starts out from the opinion that the social whole (the socio-economic formation) is formed and constituted by the economic structure. The economic structure forms the unity and continuity of all spheres of social life. Materialist monism - as opposed to all manner of pluralist theories - does not consider society to be a series or a cluster of factors, some of which appear as causes and others as effects... Materialist monism considers society to be a whole which is formed by the economic structure, i.e. by the sum of social relations that people in production enter into with respect to means of production" - Karel Kosik, DIALECTICS OF THE CONCRETE; A STUDY ON PROBLEMS OF MAN AND WORLD (Dordrecht: Reidel, 1976), p64. Cf. Antonio Labriola, ESSAYS ON THE MATERIALIST CONCEPTION OF HISTORY, transl. Charles H. Kerr (Chicago: Charles H. Kerr & Co., 1908), pp140-55. This argument does not, of course, deny the existence of so-called factors in history. Rather, it denies that any factor is an invariant constant in history. All 'factors' emerge, develop, reach their high point, decline and whither away in the historical process. The point, therefore, is not to assume them in scientific analysis but to trace their origins and ascertain the laws governing their development.

43. J.V.T. Baker, WAR ECONOMY (Wellington: Department of Internal Affairs, 1965), p516.

44. The evidence thus substantiates Ernest Mandel's thesis in LATE CAPITALISM.

Notes to Results & Prospects

1. Ralph Milliband et al. (eds.), SOCIALIST REGISTER 1985/86 (London: Merlin Press, 1986).

2. Ibid., p484.

3. See the articles by Sabena Norton, Frank Richards and Mike Freeman, in Confrontation (London: Junius Publications), v1 n1, Summer 1986. Whilst in general approving of the tenor of the discussion in this journal, we must dissociate ourselves from the name-calling of Frank Richards in particular. Noting Hilferding's interpretation of the relationship between marxist theory and political practice, Richards writes that Hilferding's view "has been endorsed by a typical representative of the British radical intelligentsia, Alan Jones. Writing in the now defunct Trotskyist Red Weekly, [Jones] observed 'Marxist theory is not the same as Marxist politics. It is possible to combine brilliance in the first with renegacy in the second' (21 April 1977). Red Weekly's successor Socialist Action shows that Alan Jones was too modest. In fact it is possible to combine renegacy in both" (op. cit., p30). Quite apart from the undesirability of such vilification and false amalgamation of different positions in marxist discourse, Richards is wrong and Jones is right. In this bad world of ours, things are a little more complicated that Richards allows for. It is possible for individual marxists to combine the purest orthodoxy, theoretical brilliance and fruitful innovation with renegacy in political practice (although not in the long run). Conversely, an unorthodox and even wrong theoretical understanding can combine with the most orthodox and exemplary revolutionary practice. One only needs to trace the careers of Hilferding himself, Kautsky, Bukharin, Karl Liebknecht and Luxemburg to understand this. The case of Luxemburg is particular instructive. The Accumulation of Capital, for example, contained numerous theoretical errors and unorthodoxies, yet did not prevent its author from consistently engaging in a revolutionary marxist political practice. In short, there is no direct, unmediated correspondence between theory and practice - one reason why it is necessary to distinguish revolutionary marxism from other brands of marxism (this point is taken up in the appendix to this volume).

4. Imre Lakatos, "History and the methodology of scientific research programmes", in Imre Lakatos and Alan Musgrave (eds.), CRITICISM AND THE GROWTH OF KNOWLEDGE (London: Syndics of the Cambridge University Press, 1970), p115. For a biographical note, see John Watkin, "Imre Lakatos", in David

L. Sills (ed.), INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES, v18 (New York: Free Press, 1979), pp399-402. Lakatos, a refugee from the Hungarian brand of stalinism, was a renegade from marxism: "Has, for instance, Marxism ever predicted a stunning novel fact successfully ? No !" - J. Worral & G. Currie (eds.), IMRE LAKATOS; PHILOSOPHICAL PAPERS, v1 (Cambridge: Cambridge University Press, 1978), p6. Cf. however Wassily Leontief: "However important [Marx's] technical contributions to economic theory, in the present-day appraisal of Marxian achievements they are overshadowed by his brilliant analysis of the long-run tendencies of the capitalistic system. The record is indeed impressive: increasing concentration of wealth, rapid elimination of small and medium-sized enterprise, progressive limitation of competition, incessant technological progress accompanied by the every growing importance of fixed capital, and, last but not least, the undiminishing amplitude of recurrent business cycles - an unsurpassed series of prognostications fulfilled, against which modern economic theory with all its refinements has little to show indeed" - Wassily Leontief, "The significance of Marxian economics", in David Horowitz (ed.), MARX AND MODERN ECONOMICS (New York: Monthly Review Press, 1968), p94.

5. See, on the other hand, Marx's THEORIES OF SURPLUS VALUE and Isaac I. Rubin's remarkable work, A HISTORY OF ECONOMIC THOUGHT (London: Ink Links, 1979), which cast economic theorising against a background of objective economic developments and the politico-economic projects of different social classes and class-fractions. One honourable exception is Joseph Schumpeter, HISTORY OF ECONOMIC ANALYSIS (New York: Oxford University Press, 1954).

6. Wassily W. Leontief, ESSAYS IN ECONOMICS, v2: THEORIES, FACTS AND POLICIES (Oxford: Basil Blackwell, 1977), p26.

7. Warren Berryman, "The changing face of the Douglas economy", in Christchurch Star, 16 August 1986. In support of his view, Berryman lists the following facts: "Taxes are up $2000m to a record $16,200m; The real gross domestic product is down 2.5 percent. This decline in economic growth is spread across almost all sectors except government services and utilities which continue to increase output; phone bills, postage, electricity prices, licence fees, state forest stumpage rates - the cost of government services - are all up; the number of tax collectors has increased and the cost of tax collection will almost quadruple this year; the number of fishermen has declined dramatically, along with fishermen's real incomes, but the number of fisheries inspectors has increased. The Government is selling fishing rights and pushing up the price of fish; Factories and meat works are closing, but mirror glass administration blocks are springing up like mushrooms in

Wellington and Auckland; farmers are going broke but forex dealers are making heaps; share prices for well-run industrial enterprises are faltering while investors are rushing to buy shares in the high flying corporate cannibals -which, despite their huge profits, haven't added one whit to our industrial capacity or increased our national wealth" (ibid.).

8. See Marx,CAPITAL VOLUME THREE, chapters 25 and 27; Mandel, LATE CAPITALISM, chapters 13 and 14; Laurence Harris, "On interest, credit and capital", in Economy and Society, v5 n2, May 1976; Suzanne de Brunhoff, MARX ON MONEY (New York: Urizen Books, 1976), Pt2, chapter 2; Roman Rosdolsky, THE MAKING OF MARX's CAPITAL, chapter 27; Rudolf Hilferding, FINANCE CAPITAL.

9. A limited amount information on consumer credit is available from the census of distribution; some statistics on company borrowing are provided in the Reserve Bank Bulletin. Neither is very useful for our purposes. In a report by the Tarriff and Development Board to the Minister of Industries and Commerce on Instalment Credit Trading in New Zealand (August 1968; AJHR 1968, v4, Parliamentary Paper H.49, pp1-273), the paucity of relevant statistical material is noted (see op. cit., pp272-73). See further Frank W. Holmes, MONEY, CREDIT AND CREDIT POLICIES IN NEW ZEALAND (Wellington: Department of Economics, Victoria University of Wellington, 1966) and Brian Easton, CONSUMPTION IN NEW ZEALAND 1954/55 to 1964/65 (Wellington: NZIER, 1967).

10. Wassily W. Leontief, ESSAYS IN ECONOMICS, v1: THEORIES AND THEORIZING (New York: Oxford University Press, 1966), p56. Leontief goes on to note that "The process of the gradual deepening and expansion of economic inquiry naturally brings it into closer contact with adjoining fields. Modern economics has established with technical-engineering disciplines a close co-operative relationship based on an effective division of labour. However, its borders with other social sciences are still very little explored, and its relations with them are marked not so much by active co-operation as by jurisdictional disputes in which each side raises claims on some outlying territories which with their present analytical resources neither can in fact occupy or hold" (ibid., pp56-57).

11. This view is not defended just by marxists however. In a study on propaganda, indoctrination and other techniques of manipulating consciousness, J.A.C. Brown concludes that "...it would appear that the main leson to be drawn from our present study of propaganda is how very resistant people are to messages that fail to fit into their own picture of the world and their own objective circumstances, how they deliberately (if unconciously) seek out only those views which agree with

their own" - J.A.C. Brown, TECHNIQUES OF PERSUASION FROM PROPAGANDA TO BRAINWASHING (Harmondsworth: Penguin, 1963), p309.

12. See Ernest Mandel's magnum opus LATE CAPITALISM.

13. We are optimistic in this respect. Building on our work in this study, one of our colleagues is making a disaggregate analysis of national accounts data for the period since 1970. See Jurriaan Bendien, "The crisis of late capitalism and the self-education of the working class", Phd Thesis, Education Department, University of Canterbury (in preparation).

14. Leon Trotsky MY LIFE; AN ATTEMPT AT AN AUTOBIOGRAPHY (Harmondsworth: Penquin, 1975), pxlii.

15. In this respect we concur with Alan Freeman: "...suppose it were finally and conclusively proved that simple reproduction could not take place if the sum of values were not equal to the sum of prices and the sum of profits to the sum of surplus-values. One would then have to conclude, as a Marxist, that the economy could not properly reproduce itself for this reason, and begin to treat the transformation of value into prices as a real factor in capitalist crises. Only if this prediction failed to find empirical confirmation could one finally reject value theory as unfounded. One and only one test, a test which is remarkably absent from post-Sraffian writings can be the final arbiter of theory: the test of practice. As Albert Einstein, whose authority on such matters can hardly be questioned, remarked: 'The sceptic will say 'It may well be true that this system of equations is reasonable from a logical standpoint. But this does not prove it corresponds to nature.' You are right, dear sceptic. Experience alone can decide on truth" - Alan Freeman, "The logic of the transformation problem", in Ernest Mandel and Alan Freeman (eds.), RICARDO, MARX, SRAFFA (London: Verso, 1984), pp263-64 (emphasis deleted).

16. See Ernest Mandel, LATE CAPITALISM, chapter 7.

Notes to Appendix

1. Cited in MARX AND ENGELS THROUGH THE EYES OF THEIR CONTEMPORARIES (Moscow: Progress, 1978), pp8-9.

2. SECOND CONGRESS OF THE COMMUNIST INTERNATIONAL; MINUTES AND PROCEEDINGS, v1 (London: New Park, 1977), p24.

3. Hal Draper discusses the origins of this much misused retort under the heading "I am no marxist" said he" in his KARL MARX'S THEORY OF REVOLUTION, VOLUME TWO (New York: Monthly Review Press, 1978), pp5-11.

4. Alvin Gouldner, THE TWO MARXISMS: CONTRADICTIONS AND ANOMALIES IN THE DEVELOPMENT OF THEORY (London: Macmillan, 1980). Gouldner cautions that "Both Scientific and Critical Marxism are analytic distinctions, or ideal types, rather than concrete historical groups of persons. Thus, it is fundamentally not correct to say, for example, that Louis Althusser is a Scientific Marxist or Georg Lukacs a Critical Marxist, or that Maoism is a Critical Marxism. The ideal types facilitate our examination of concrete groups and specific persons, but the latter are not identical with or reducible to the former. A specific Marxist may be more Scientific Marxist than others..."(p. 60). In all this subjectivist 'concept-mongering' Gouldner pays no attention at all to the Trotskyist tradition, except for a brief expression of distaste for Perry Anderson's analysis of Western Marxism. Cf. Mandel's comment on the voluntarism/determinism dichotomy: "Marxism, [critics] maintain, tries to combine two elements which, developed to their logical conclusion, tend to exclude each other: determinism and voluntarism. As a method of perceiving reality, it involves an inclination towards fatalism. As a system of action, a technique of revolution, it tends to stray from a painstaking analysis of objective reality. To keep a correct balance between these two contradictory tendencies is extremely difficult if not impossible... Marxism is indeed a system of action, a revolutionary praxis. Yet it tries to avoid the pitfalls of subjectivism and voluntarism by establishing the always limited parameters of effective action through a strictly scientific analysis of dynamic historical reality (the laws of motion of a given society, the contradictions of each socio-economic formation). Some goals can be attained in given historical circumstances. Others cannot - even with the best of policies, the greatest of militancy, the highest forms of individual and mass sacrifice. Some means lead to these goals. Others do not, whatever the illusions of those who use them. Similarly, objectively determined social contradictions, which

exist independently of human desires or decisions and cannot disappear so long as the given society survives, mau nevertheless lead to quite diverse results. the outcome will depend on who acts decisively (which class, which sector of that class, which party of that class inspired by which programme), who takes the initiative, who wins the battle of contesting social forces, and so on. Presented in this way, what initially appeared as polar opposites tearing Marxism apart ('fatalist determinism', 'subjective voluntarism') increasingly come together in a higher unity (unity-and-struggle, unity-and-contradiction, if one wishes) between objective theoretical analysis and revolutionary praxis. Without a scientific theory, revolutionary praxis is condemned to utopian ineffectiveness: for reality cannot be changed in a conscious manner unless it is thoroughly understood. But without revolutionary praxis, scientific theory becomes increasingly sterile in a double sense: it tends to observe passively, and by only observing, to lose hold of that ultimate criterion of truth, practical verification. This 'unity-in-contradiction' of scientific theory and revolutionary action is of course a very difficult goal to attain, not a straightforward, everyday realisation. It is a tendential asymptotic unity: a perfect unity of reality, consciousness and conscious transformation of reality is not actually attainable for human beings" - Ernest Mandel, TROTSKY: A STUDY IN THE DYNAMIC OF HIS THOUGHT (London: New Left Books, 1979), pp111-12.

5. "If revolutionaries desire to change the world - and this is, after all, their main function - they must act within the confines of a series of short- and medium-term possibilities in order to be able to determine their actual line of action. Revolutionary theory analyses underlying, essential historical trends, but revolutionary action is practised within the constraints of immediate reality. To resolve this difficulty from the conceptual standpoint, we must distinguish between the formulation by revolutionary marxism of the scientific laws of development of modes of production or of particular social formations on the one hand, and the positing of what can only be considered working hypotheses, and not scientific laws, about the short-term evolution of events on the other hand. Without these working hypotheses it is simply impossible to act; but at the same time, their constant verification in reality is required if they are to be sufficiently grounded to determine correct action. In that sense, these short-term predictions, although frequently false, are an exigency of revolutionary action - provided they are verified and corrected on the basis of experience. Dangerous as they may be, without them there can be no revolutionary action, but only broad historical theory" - Ernest Mandel, REVOLUTIONARY MARXISM TODAY (London: New Left Books, 1979), p171. This remark recalls the carefully worded

and somewhat ponderous preamble to a 1958 document of the Fourth International, still worth quoting in full: "The object of the following theses is to distinguish the general tendencies of the years to come both in the capitalist economy and in that of the workers' states, insofar as they can be deduced on the basis of present conditions and dynamics of both types of economy and in the purely theoretical eventuality of the lack of any major conflict during this period; also to evaluate the influence of these economic tendencies on political developments, in order to derive therefrom certain general political perspectives. This method of proceeding from an extrapolation, starting from the present condition and dynamics, ignoring the possibility of major disturbances, is the only possible method of determining the general tendencies and perspectives. The prognoses thus established will naturally have only a relative value, that is to say, these prognoses will be valid only insofar as the interacting factors which determine the tendencies and perspectives evolve in such a way as to produce roughly the same global result as can be envisaged from the analysis of the present state and dynamics of these factors. But, if certain of these factors do become considerably modified in the years to come, or other unforeseen factors intervene, the basis of the calculation will be changed. This is how Marxists' prognoses differ from the prophesies of dogmatists. On the other hand, it must be taken into account, especially where economic forecasts are concerned, that politics, particularly in the present advanced stage of imperialism, constantly influence economics, and may reinforce or abruptly interrupt, the process of so-called capitalist stabilisation. The class struggle in the capitalist countries is unquestionably influenced by the economic conjuncture, but this in turn is profoundly influenced by class struggle. In fact, in most capitalist countries, the margins of economic stablisation are always so narrow that the outbreak of a widespread struggle is enough to undermine all the achievements of the 'stablisation' and to start off a new 'recession' or crisis. A Marxist analysis retains all its validity and importance if it helps to forecast a general tendency, even if the end result of the tendency (for example, a crash, a war or a revolution) does not actually occur for some time as a result of the intervention of opposing factors. This is the classical case with numerous analyses and Marxist perspectives, from Marx himself and Capital down to the present-day. Errors in a marxist assessment should be sought either in a mistaken estimation of present dynamics of the factors analysed, or in the fact that, subsequently, it has not taken into account in time fundamental modifications in these factors which would necessarily result in a different global effect from that initially foreseen" - Preamble to the document "International economic and political perspectives" presented at the Fifth World Congress of the Fourth

International (1957), in Fourth International (Paris), n1 Winter 1958, p3. The highly qualified language is due to the fact that the Fourth International at this time was grappling with the post-war economic boom, which Trotsky had as good as ruled out from the International's perspectives on the eve of World War II. See further on the subject of revolutionary perspectives, Ernest Mandel, "Anticipation and hope in the materialist conception of history" (1980; unpublished translation by Jurriaan Bendien, Education Department, University of Canterbury, 1986).

6. Stalin's 'dialectical logic' even confused one luckless staff propagandist (sic.!) by name of Ivan Philipovich Ivanov who, in a letter to the General Secretary, requested clarification on the question of the final victory of socialism in the USSR: "Dear Comrade Stalin", [Ivan wrote] "I earnestly request you to explain the following question: in the local districts here, and even in the Regional Committee of the Young Communist League, a two-fold conception prevails about the final victory of socialism in our country, i.e., the first group of contradictions is confused with the second. In your works on the destiny of Socialism in the USSR, you speak of two groups of contradictions - internal and external. As for the first group of contradictions, we have, of course, solved them - within the country Socialism is victorious. I would like to have your answer about the second group of contradictions, i.e., those between the land of Socialism and capitalism. You point out that the final victory of Socialism implies the solution of the external contradictions, that we must be fully guaranteed against intervention and, consequently, against the restoration of capitalism. But this group of contradictions can only be solved by the efforts of the workers of all countries. Besides, Comrade Lenin taught us that 'we can achieve final victory only on a world scale, only by the joint efforts of the workers of all countries'. While attending the class for staff propagandists at the Regional Committe of the YCL, I, basing myself on your works, said that the final victory of Socialism is possible only on a world scale. But the leading Regional Committee workers -Urozhenko, First Secretary of the Regional Committee, and Kazelkov, propaganda instructor -described my statement as a Trotskyist sortie. I began to read them passages from your works on this question, but Urozhenko ordered me to close the book and said: 'Comrade Stalin said this in 1926, but we are now in 1938. At that time, we did not have the final victory but now we have it and there is no need for us at all to worry about intervention and restoration'. Then he went on to say: 'We have now the final victory of Socialism and a full guarantee against intervention and the restoration of capitalism'. And so I was counted as an abettor of Trotskyism and was removed from propaganda work and the question was raised as to whether I was fit to remain in the YCL. Please, Comrade Stalin, will

you explain whether we have the final victory of Socialism yet or not. Perhaps there is additional contemporary material on this question connected with recent changes that I have not come across yet. Also I think that Urozhenko's statements that Comrade Stalin's works on this question are somewhat out of date is an anti-Bolshevik one. Are the leading workers of the Regional Committee right in counting me as a Trotskyist ? I feel very much hurt and offended over this. I hope, Comrade Stalin, that you will grant my request and reply to the Manturovsk District, Kursk Region, first Zasemsky Village Soviet, Ivan Philipovich Ivanov. (Signed) I. Ivanov. January 18, 1938". Stalin duly replied, as follows: "Of course you a right, Comrade Ivanov, and your ideological opponents, i.e., Comrades Urozhenko and Kazelkov, are wrong. And, for the following reasons: undoubtedly the victory of Socialism in one country, in this case our country, has two different sides. The first side of the victory of Socialism in our country embraces the problem of the mutual relations between classes in our country. This concerns the sphere of internal relations. Can the working class in our country overcome the contradictions with our peasantry and establish an alliance, collaboration with them... [and] smash the bourgeoisie of our country, deprive it of the land, factories, mines, etc., and by its own efforts build a new, classless society, complete Socialist society ? ... Leninism answers these problems in the affirmative. Lenin teaches us that 'we have all that is necessary for the building of a complete socialist society.' ...Trotsky, Zinoviev, Kamenev, and those other gentlemen who later became spies and agents of fascism, deny that it was possible to build socialism in our country unless the victory of the Socialist revolution was first achieved in other countries... This was precisely the point of the controvery between our Party and these gentlemen. Our country's subsequent course of development prove that the Party was right and that Trotsky and company were wrong. For... we succeeded... in building, in the main, Socialist society, notwithstanding the fact that the Socialist revolution has not been victorious in other countries... I think, Comrade Ivanov, that this is not the side of the question that is the point of the controversy between you and Comrades Urozhenko and Kazelkov. The second side of the question of the victory of Socialism in our country embraces the problem of the mutual relations between our country and other countries, capitalist countries... This concerns the sphere of external, international relations... Can our working class and our peasantry... without the serious assistance of the working class in capitalist countries, overcome the bourgeoisie in other countries... Can we regard the victory of Socialism in our country as final, i.e., as being free from the dangers of military attack and of attempts to restore capitalism ? ... Leninism answers these problems in the negative. Leninism teaches that 'the final victory of Socialism, in the sense of

full guarantee against the restoration of bourgeois relations, is possible only on an international scale... the second problem cannot be solved in the way we solved the first problem, i.e., solely by the efforts of our country. [It] can only be solved by combining the serious efforts of the international proletariat with the still more serious efforts of the whole of our Soviet people... People like Comrade Urozhenko, even if subjectively they are loyal to our cause, are objectively dangerous to it because by their boastfulness they - willingly or unwillingly (it makes no difference !) - lull the vigilance of our people, demobilise the workers and peasants, and help the enemies to take us by surprise in the event of international complications... Now you can judge whether the passage from the book Problems of Leninism on the victory of Socialism in one country is out of date our not. Signed, J. Stalin. February 12, 1938" (Both items of correspondence were printed in Pravda, 14 February 1938. We cite from J.V. Stalin, WORKS, v14: 1934-1940 (London: Red Star Press, 1978, pp315-25).

7. See Leon Trotsky, THE STALIN SCHOOL OF FALSIFICATION (New York: Pathfinder, 3rd edn. 1973).

8. See, in particular, Franz Mehring, KARL MARX: THE STORY OF HIS LIFE (New Jersey: Humanities Press, 1981); David Riazanov, KARL MARX AND FRIEDRICH ENGELS: AN INTRODUCTION TO THEIR LIVES AND WORK (New York: Monthly Review Press, 1973); Boris Nicolaevski and Otto Maenchen-Helfen, KARL MARX: MAN AND FIGHTER (Harmondsworth: Penguin, 1973); Hal Draper, KARL MARX's THEORY OF REVOLUTION, v1 (New York: Monthly Review Press, 1977). These works, because written by marxist scholars, pay much more attention to the relationship between Marx's political activities and the evolution of his economic theory than do bourgeois scholars. Mehring's and Riazanov's accounts are dated in the sense that they contain some factual inaccuracies and omissions.

9. Walter Suchting, MARX: AN INTRODUCTION (Brighton, Sussex: Wheatsheaf Books, 1983), pp54-55.

10. See, in particular, Mehring op. cit., chapter 6.

11. Ibid.

12. See Dirk Struik, BIRTH OF THE COMMUNIST MANIFESTO (New York: International Publishers, 1971). This handy volume contains all the prefaces to the Manifesto written by Marx and Engels, the "Demands of the communist Party in Germany" as well as other supplementary texts and historical documentation. See further the appendices on the Communist League in MARX-ENGELS COLLECTED WORKS, v6 (London: Lawrence & Wishart, 1976), pp585-658.

13. Suchting, op. cit., 62-63.

14. MARX-ENGELS COLLECTED WORKS, v10 (London: Lawrence & Wishart, 1978), p510.

15. Ibid.

16. Struik, op. cit., p95.

17. See Hal Draper, KARL MARX'S THEORY OF REVOLUTION, v2 (New York: Monthly Review Press, 1978), pp77-80.

18. Ibid., pp599-610.

19. See MARX-ENGELS COLLECTED WORKS, v10, pp69, 280-86.

20. See Ernest Mandel, LATE CAPITALISM, chapter 4; Ernest Mandel, LONG WAVES OF CAPITALIST DEVEOPMENT, chapter 1.

21. Cf. Ronald L. Meek, STUDIES IN THE LABOUR THEORY OF VALUE (New York: Monthly Review Press, 2nd edn. 1975), pp145-56; J. Witt-Hansen, HISTORICAL MATERIALISM; THE METHOD, THE THEORIES (Copenhagen: Munksgaard, 1960).

22. See Roman Rosdolsky, THE MAKING OF MARX'S CAPITAL; W.S. Vygotsky, THE STORY OF A GREAT DISCOVERY (Berlin: Verlag die Wirtschaft, 1973); Ernest Mandel, THE FORMATION OF THE ECONOMIC THOUGHT OF KARL MARX (New York: Monthly Review Press, 1971).

23. See DOCUMENTS OF THE FIRST INTERNATIONAL (London: Lawrence & Wishart, n.d.); Hans Gerth (ed.), THE FIRST INTERNATIONAL; MINUTES OF THE HAGUE CONGRESS (Madison, 1958). For Marx's role, see H. Collins and C. Abramsky, KARL MARX AND THE BRITISH LABOUR MOVEMENT; YEARS OF THE FIRST INTERNATIONAL (New York: 1965). For a general history, see Julius Braunthal, HISTORY OF THE INTERNATIONAL, 1864-1914 (New York: Thomas Nelson & Sons, 1966). Marx's important writings and addresses are reprinted in David Fernbach (ed.), KARL MARX: THE FIRST INTERNATIONAL AND AFTER. POLITICAL WRITINGS VOLUME 3 (Harmondsworth: Penguin, 1974).

25. For Marx's Inagural Address, see Fernbach (ed.), op. cit.

26. After Suchting, op. cit., pp200-201.

27. Lenin, LENIN COLLECTED WORKS, v21, p240.

28. "The party programme [of the European social democratic parties], as a rule modelled on that of the German SPD adopted at Erfurt in 1891, provided both minimum and maximum objectives. The minimum programme proposed reforms to be

sought within the framework of capitalist society. The maximum programme outlined the course of historic development and proposed the ultimate goal of the achievement of a socialist order. The implicit, but not always explicitly revealed assumption, was one of a substantially linear increase of socialist consciousness and socialist organisation, accompanied by a deepening crisis of the capitalist economic and social system. At some imminent, foreseeable, but not precisely to be foretold future date, the ascending and descending graphs of socialist and capitalist power would cross in a 'breakdown of the capitalist system'. At that point, social democracy, now an overwhelming majority of the nation, would acquire political power and refurbish society on a socialist model... the socialists had a reform programme for capitalism and a revolution programme for socialism, but there was no adequate bridge between the two. If the two lines on the graph had continued to diverge, this might not have been an insuperable obstacle" - Walter Kendall, THE LABOUR MOVEMENT IN EUROPE (London: Allen Lane, 1975), p20. For the text of the Erfurt Programme, see V.L. Lidtke, THE OUTLAWED PARTY: SOCIAL DEMOCRACY IN GERMANY, 1978-1890 (Princeton: Princeton University Press, 1966). For Engels's critique of the Erfurt Programme, see MARX-ENGELS SELECTED WORKS, v3.

29. See Bernstein, EVOLUTIONARY SOCIALISM (New York: Schocken Books, 1963; Peter Gay, THE DILEMMA OF DEMOCRATIC SOCIALISM (New York: Columbia University Press, 1952).

30. Ibid.

31. For Rosa Luxemburg's critique of this slogan, see Mary Alice-Waters (ed.), ROSA LUXEMBURG SPEAKS, p36f.

32. See Tariq Ali (ed.), THE STALINIST LEGACY (Harmondsworth: Penguin, 1984).

33. For the general background, see V.L. Lidtke, op. cit.; C. Schorske, GERMAN SOCIAL DEMOCRACY, 1905-1917 (Cambridge: MIT Press, 1955); G.D.H. Cole, A HISTORY OF SOCIALIST THOUGHT, v3 (London: Macmillan, 1956). For more references, see Walter Kendall, op. cit.

34. "The Social Democratic Party, oriented almost totally towards parliamentary-gradualist aspect of the Erfurt Programme, proved quite unable to cope with the disjointed development of the post-war era. Bossification, ossification, bourgeoisification (Verbonzung, Verkalkung, Verburgerlichung) wrote Sigmund Neumann, and it was not so far from the truth. Paralysed by a kind of arterial scelerosis, its vast organisations suffocated the movement below by its own dead weight. A tendency for the existing leadership and the

existing leadership and the 'apparatus' to emerge as a self-perpetuating oligarchy was already apparent before the war. The overburdening strains which post war disorder, inflation, unemployment and ruthless employer offensives put upon the unions and their leadership accentuated these trends" -Walter Kendall, op. cit., p102.

35. See Ernest Mandel, LATE CAPITALISM, pp513-522; Gerd Hardach et al., A SHORT HISTORY OF SOCIALIST ECONOMIC THOUGHT, chapter 4.

36. See Walter Kendall, op. cit., p27f., p103f.

37. See Peter Gay, op. cit.

38. Lenin, LENIN COLLECTED WORKS, v1, p328.

39. Lenin, LENIN COLLECTED WORKS, v5, p226.

40. Lenin, ibid., p353.

41. See Ernest Mandel, FROM STALINISM TO EUROCOMMUNISM, chapter 10. For biographical information on Kautsky, see Gary P. Steenson, KARL KAUTSKY 1854-1938 (Pittsburgh: University of Pittsburgh Press, 1979).

42. See Rudolf Hilferding, FINANCE CAPITAL (London: Routledge & Kegan Paul, 1981); Rosa Luxemburg, THE ACCUMULATION OF CAPITAL (London: Routledge & Kegan Paul, 1951). Norman Geras closely scrutinises Luxemburg's perspectives in his THE LEGACY OF ROSA LUXEMBURG (London: New Left Books, 1976).

43. See Ernest Mandel, ibid. and LATE CAPITALISM, p332f.

44. Mandel, FROM STALINISM TO EUROCOMMUNISM, pp 190-91.

45. For the famous Reichstag declaration and related documents, see John Riddell (ed.), LENIN'S STRUGGLE FOR A REVOLUTIONARY INTERNATIONAL (New York: Monad Press, 1984), chapter 3.

46. See Rosa Luxemburg, THE JUNIUS PAMPHLET (THE CRISIS IN THE GERMAN SOCIAL DEMOCRACY) (London: Merlin Press, n.d.).

47. O.H. Gankin & H.H. Fischer, THE BOLSHEVIKS AND THE WORLD WAR; THE ORIGINS OF THE THIRD INTERNATIONAL (Stanford: Stanford University Press, 1940), p59.

48. LENIN COLLECTED WORKS, v21, p16.

49. Ibid., p40.

50. "The alliance with the Majority Socialists enabled the ruling classes to maintain their former stronghold in the government

and in the army and to preserve their economic power... Immediately before the elections to the National assembly in 1919, the USPD were forced out of the Government. In Berlin, radical workers were set upon by Freikorps units - disbanded soldiers led by former army officers. This attack, in January 1919, was the turning point of the German revolution. The murders of Rosa Luxemburg and Karl Liebknecht in January, and of Leon Jogiches in March, characterised the policy of systematic terror by which the German working class was consistently deprived of its best leaders" - Wolfgang Abendroth A SHORT HISTORY OF THE EUROPEAN WORKING CLASS (New York: Monthly Review Press, 1973), p73.

51. Perry Anderson, CONSIDERATIONS ON WESTERN MARXISM (London: New Left Books, 1976), p13.

52. See for example Karl Kautsky's THE DICTATORSHIP OF THE PROLETARIAT (Manchester: National Labour Press, 1919) and TERRORISM AND COMMUNISM (Westport: Hyperion, 1973). See further the replies by Lenin, Bukharin and Trotsky: Lenin, THE PROLETARIAN REVOLUTION AND THE RENEGADE KAUTSKY in LENIN COLLECTED WORKS, v28, pp227-325; Nikolai I. Bukharin, THE THEORY OF THE DICTATORSHIP OF THE PROLETARIAT, in Bukharin, THE POLITICS AND ECONOMICS OF THE TRANSITION PERIOD (London: Routledge & Kegan Paul, 1979), pp27-52; Leon Trotsky, TERRORISM AND COMMUNISM; A REPLY TO KARL KAUTSKY (London: New Park, 1975).

53. This distinction between 'class for itself' and 'class in itself' was introduced by Marx in THE POVERTY OF PHILOSOPHY. It is discussed by Nikolai I. Bukharin, HISTORICAL MATERIALISM; A SYSTEM OF SOCIOLOGY (New York: International Publishers, 1925).

54. This is Lenin's formula, in LENIN COLLECTED WORKS,21, pp213-14.

55. Leon Trotsky, THE THIRD INTERNATIONAL AFTER LENIN, p310.

56. Lenin, LENIN COLLECTED WORKS, v12, p108.

57. See Paolo Spriano, STALIN AND THE EUROPEAN COMUNISTS (London: Verso, 1985), chapter 16. 58. See Roy Medvedev, LET HISTORY JUDGE (New York: Knopf, 1971).

59. "Varga had... argued that capitalism would be able to ward off, or at least postpone, a general crisis. By May 1947, he was being subject to harsh criticism for this. He was soon relieved of many of his duties, and the Institute of World Economy and Politics, of which he had been a director, was closed down. The official line was that the capitalist system was poised on the brink of a catastrophic crisis. Indeed, the

virulence and imperialist aggressivity of capitalism was said to result precisely from desperate attempts to avert this crisis by provoking tension, conflict, and war. Propagandistic use of this thesis became common in subsequent years" - Spriano, op. cit., p281. The theory of the impending collapse was ditched with the introduction of Krushchev-style 'peaceful coexistence'.

60. "In his questionable book, Die Theorie der Lage der Arbeiter, which dogmatically expounded the Stalinist thesis of the 'absolute immiseration of the working class' - a notion highly rated at the time [i.e. 1948] - Kuczynski... tried to combine acceptance of an increase in new historical needs, to be satisfied by wages, with assertion of a fall in the satisfaction of physiological needs for the minimum level for existence, with the help of dubious statistics based on particular tendencies in the development of nutrition" - Ernest Mandel, LATE CAPITALISM, p157.

61. For marxian appraisals of neo-Ricardianism and references, see e.g. Bob Rowthorn, CAPITALISM, CONFLICT AND INFLATION, pp14-47; Anwar Shaikh, "Neo-Ricardian Economics; a wealth of algebra, a poverty of theory", in Review of Radical Political Economics, v14 n2 Summer 1982.

62. This is Trotsky's formula in THEIR MORALS AND OURS (New York: Pathfinder, 5th edn. 1972), p48. See also Trotsky's address "In defence of the Russian revolution", in Sarah Lovell (ed.), LEON TROTSKY SPEAKS (New York: Pathfinder, 1972).

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